ENCYCLOPEDIA OF
Social
Psychology

Roy F. Baumeister
Kathleen D. Vohs
EDITORS

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Reader's Guide

This Reader's Guide performs two functions within the encyclopedia. One, the headings alone describe, at a broad level, the kinds of topics covered in the field of social psychology. Looking at the overarching categories, one can see that social psychology studies cognition (thought) and action, helpful and hurtful behaviors, emotions and decisions, culture and evolution, the self and social relationships, as well as health and problematic behaviors. That's quite a range of topics! The second purpose of the Reader's Guide is related to the first in that it helps readers who are already interested in a topic find new topics that may be of interest. In this way, the Reader's Guide provides links among topics. Either way it is used, we hope that you find yourself reading entries from all of the general categories, given the wealth of interesting and important information to learn here.

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About the Editors

Roy F. Baumeister holds the Eppes Eminent Professorship in the Department of Psychology at Florida State University. He received his Ph.D. in experimental social psychology from Princeton University in 1978. He has also taught and conducted research at the University of California at Berkeley, Case Western Reserve University, University of Texas, University of Virginia, the Max-Planck Institute in Munich (Germany), and Stanford's Center for Advanced Study. He has contributed more than 300 professional publications (including 18 books), spanning such topics as self and identity, performance under pressure, self-control, self-esteem, finding meaning in life, sexuality, decision making, thoughts on free will, aggression and violence, suicide, interpersonal processes, social rejection, the need to belong, and human nature. His research on self-regulation has been funded for many years by the National Institute of Mental Health and the Templeton Foundation.

Kathleen D. Vohs is Assistant Professor in the Department of Marketing, Carlson School of Management, University of Minnesota. Vohs received her Ph.D. in psychological and brain sciences from Dartmouth College in 2000, after which she conducted research at the University of Utah and Case Western Reserve University. In 2003, she joined the Marketing Division at the University of British Columbia, where she was awarded the Canada Research Chair in Marketing Science and Consumer Psychology. In 2007, Vohs was named a McKnight Land-Grant Professor at the University of Minnesota. Vohs has contributed to more than 80 professional publications, including coediting 3 books. Her theories highlight the role of the self, and her research has been extended to the domains of chronic dieting, bulimic symptoms, sexuality, and impulsive and compulsive spending. Her work has been funded by the National Institutes of Health, the Social Sciences and Humanities Council of Canada, and the American Cancer Society.

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Introduction

Social psychology is the study of how normal people think, feel, and act. In that sense, social psychology is at the core of all the fields that study the human experience. As one colleague (not a social psychologist) remarked to us once, social psychology is one, and perhaps the only, field that can communicate with every other department in the university.

It was not always thus. The field of social psychology only began to take shape after World War II. Early on it consisted of a handful of creative researchers trying to figure out how to use laboratory techniques to test theories about people. In those early days, the ideas were simple to the point of simplistic, the methods primitive, the journals and conferences sparse and obscure.

Through the decades, social psychology has blossomed into a major enterprise. The 2007 conference of the Society for Personality and Social Psychology, held in Memphis, Tennessee, attracted more than 2,000 researchers. Now the Society has more than 5,000 members worldwide. There are dozens of journals, including the largest journal published by the American Psychological Association. (In fact, it is so large that at one point someone calculated that if it were split in half, the result would be the two largest journals published by the APA!)

All this remarkable progress has, however, made it difficult for outsiders to benefit from what social psychologists are learning. Thousands of researchers working in laboratories scattered around the world produce many individual facts and findings, which then appear in the journals one at a time. How can one wade through all of this material to find what one needs?

The *Encyclopedia of Social Psychology* is designed to make it easy for outsiders to gain access to and benefit from this rapidly growing and important field. It provides brief, clear, readable introductory explanations to the vast number of ideas and concepts that make up the intellectual and scientific content of the field. We think of it as a map and tour guide to the field.

What is entitativity? How about erotic plasticity? What is the Prisoner's Dilemma (and what do social psychologists use it for)? What's the Ringelmann effect? Or the availability heuristic, or the facial-feedback hypothesis? What is door-in-the-face technique useful for? Or the lost letter technique? What's the problem with the illusion of transparency?

The encyclopedia does more than just answer these questions. It gives some background to each concept and explains what researchers are now doing with it. It also explains where it stands in relation to other concepts in the field.

Why are there so many terms? Social psychologists have been accused of making up jargon just to flatter themselves, to confuse others, or to disguise simple ideas to look like scientific theories. Here and there, such accusations may have some truth to them, but for the most part they miss the point. Jargon is needed for precision. Scientists need precise terms with clear definitions, and using the language of everyday speech, with its multiple meanings and connotations and emotional baggage, falls short. Hence, social psychologists, like those in most other fields, have had to develop their own terminology.

Jargon makes it easier for scientists to communicate with each other—but it makes it much harder for outsiders to gain access and understand what is being said. Hence, another important function of the encyclopedia is to translate jargon into plain terms. The biggest part of our job as editors of this encyclopedia

was to push the authors to describe their concepts in plain, clear, everyday language rather than speaking in the secret language of the discipline. We think they have succeeded magnificently (for the most part!). For some, it was not easy, because they are accustomed to writing about their ideas and working in the specialized terms that experts use to communicate with each other. But we were relentless on this, and the result is a wonderfully clear and readable set of entries.

Students are a particular target audience for the encyclopedia. We told our authors to imagine the reader as a young student, fresh out of high school, taking a first psychology course. (We thought that if things were explained at that level, the entries would also be very useful even for experts in other fields, who may know a great deal about their own field but whose knowledge of social psychology might be comparable to that of an undergraduate. After all, even if you have a Ph.D. in English literature or cultural studies, if you have not taken a course in psychology, your knowledge of this field is not all that different from that of an undergraduate!)

The encyclopedia began in conversations between us and the Sage editors several years ago. The need for such an encyclopedia had first been recognized in comments by librarians and others who field questions from students. Simple dictionaries do not cover all the terms that social psychologists use, and even when they do provide definitions, these definitions do not necessarily correspond to the current usage in the field. And, crucially, dictionary definitions are typically very short, providing the bare minimum of information rather than explaining a concept along with its background, significance, and relation to other concepts. What was needed was an easy way for ordinary people (including students) to find out what experts mean when they use a term like *entitativity*.

Developing the list of entries was a formidable challenge. We wanted to cover everything, but how can someone generate a list of several hundred concepts and terms and be sure it is complete? As a first step, the in-house research staff at Sage combed through the textbooks and other reference sources to create a first list. It was an impressive start, but when the two of us (both currently active researchers in the field) looked it over, we quickly noticed that it missed quite a few, especially ones that had emerged in recent years (and therefore might be extremely important to what social psychologists are discussing today). And so we had to do a massive overhaul. Our first conversation—sitting outside at a sidewalk café at the Dam square in Amsterdam, a place that is richly stimulating for social psychologists because there is so much activity to observe—lasted for hours and generated many changes.

We soon realized, however, that the task was so big and important that we were not willing even to trust ourselves, though we have spent many years in the field, have written a textbook and attended numerous conferences, and so forth. Hence, we recruited a blue-ribbon Advisory Board and gave them the mission of reviewing the list to make changes. The Advisory Board consisted of prominent, well-respected researchers spanning the many subfields of social psychology and collectively had a truly amazing span of expertise. These busy men and women went far beyond the call of duty. They scrutinized the list of terms, identified which ones could be replaced and, more important, what needed to be added. They also pondered the importance of each term in the field and suggested how long each entry should be. Several Advisory Board members later reported that they had initially thought of the task as a bit of burden, but found the process of coming up with topics and who would be best to write about them to be quite enjoyable. As editors, we then had further meetings to integrate all their suggestions and add a few of our own.

The next step was to recruit people to write the entries. Many reference works such as this are written by anyone who is willing to contribute. But we wanted the best. We asked the Advisory Board to name the most prominent authority on each topic. And then we invited that person. We didn't just send a standard invitation—we sent a letter explaining how important we thought this project is and why it would be worthwhile for an internationally acclaimed expert to take the time and effort to produce this. To our very pleasant surprise, more than 95% of these leading authorities consented to write for us. For us, one of the high points was seeing the astonished expression on our Sage editor's face when we next met: "You got all the A-list

people—how did you manage that?" Fortunately for us, social psychology has recently recognized that its explosive growth has resulted in a vital need for sources like this that can help communicate our knowledge to students and to people in other disciplines.

From there, it was all over but for the hard (but also fun) part of editing the entries and finalizing the product. We hope you will share our enthusiasm for this product.

We want to thank several people without whom this project could not have been as enjoyable as it was, or as high quality. Michael Carmichael at Sage was a terrific help and champion of this project, and our meetings with him gave us renewed excitement. Our developmental editors, Paul Reis and Carole Maurer, were indispensable aids; without them, this project either would not have been completed or it would have been completed with a great deal of consternation on our parts. We needed help from them almost daily during the more intense phases of the project, and they were ready and willing to guide us in all aspects of the work. Our thanks to the tireless copy editors, Colleen Brennan and Robin Gold, who worked hard to get the encyclopedia into top shape. Catherine Rawn was a great help with cross-referencing so that readers would be able to find related entries. We also want to extend thanks to Rolf Janke, whose meetings with us provided a broad overview of this encyclopedia and its placement within the suite of Sage books.

Our Advisory Board members deserve much praise for allowing us to put some structure to the generation of topics and potential authors. They are Galen Bodenhausen, Ap Dijksterhuis, Wendi Gardner, Michael Hogg, Jay Hull, Doug Kenrick, Tony Manstead, Sandra Murray, Abe Tesser, and Penny Visser. Last, our sincerest and most heartfelt thanks go to Nicole Mead who was an invaluable assistant at each step along the way. Thank goodness we had Nicole's help, we thought at countless points during the process.

If you are still reading this, we must ask, why? Are you our parents? If so, hi mom. If not, you really should get a life. Or, better yet, move on to some of the entries in this encyclopedia. (We especially recommend the entry Sexual Economics Theory!) There is plenty of fascinating stuff in these pages. We hope you will use this not just to look things up: You can learn quite a bit just by browsing through these pages. We learned quite a bit just by editing this project! Enjoy and learn!

Roy F. Baumeister and Kathleen D. Vohs

A

ACCESSIBILITY

Definition

Accessibility refers to the ease with which an idea or concept can be retrieved from memory. Accessible constructs are those that are quickly retrieved from memory. Concepts that are accessible are important because a concept must be activated to be useful in guiding behavior or in influencing judgments. Concepts that an individual has thought about recently or thinks about frequently tend to be more easily retrieved than other concepts. In social psychology, accessibility has often been considered in relation to attitudes. That is, attitudes that come to mind quickly are accessible attitudes. Accessible attitudes are generally stronger, more resistant to persuasion, and more predictive of behavior than are less accessible attitudes.

Background

The study of attitudes has been an important part of the research landscape in social psychology since the early 1900s. Historically, attitudes were thought to be an important topic to study because early researchers assumed that attitudes are strongly related to behavior. However, the assumption that attitudes are reflected in behavior was criticized in 1969 by Allan Wicker, who observed that the bulk of research findings examining the correlation of attitudes to related behaviors found only a weak relationship. Later, as part of the ensuing debate about whether and how strongly attitudes guide behavior, Russell Fazio and colleagues found that accessible attitudes (those that are quickly brought to mind) are more strongly related to behavior than attitudes that take longer to bring to mind.

The concept of accessibility has also been applied to other judgments people make in their everyday lives. Stereotypes of minority groups, for example, can vary in their accessibility. Priming, or presenting stereotype-related information to make the stereotype more accessible in the short term, has been shown to increase the reliance on stereotypes in making judgments of members of minority groups. Similarly, information that is relevant to a person's self-concept, or that is relevant to the attainment of a goal, tends to be accessible. The accessibility of self-relevant and goal-related information makes that information more likely to be relied on in making judgments.

A classic investigation of the accessibility of social stereotypes was conducted by Tory Higgins and his colleagues in 1977. They conducted an experiment in which they made trait categories accessible by having research participants remember them during an unrelated perceptual task. Afterward, participants read an ambiguous description of a stimulus person. The activated trait categories influenced participants' ratings and descriptions of the stimulus person. This study demonstrated that trait categories that are made accessible through priming are important in the interpretation of social information.

Mechanism

To understand how accessible concepts affect judgments, it is important to understand how concepts like attitudes and stereotypes are represented in memory. Concepts are thought to reside in a semantic network in memory. The mental representation of an object or

concept is stored as a node in this network. The network is organized such that related concepts or nodes are linked through associative pathways. These associations, or links, vary in their strength: A strong association is created if a concept is frequently activated with another concept. Strong associations exist among members of categories and the concept of the category. Category members that are highly typical of the category are more strongly associated with the category than less typical members. For example, a robin will have a stronger link to the category label "bird" than will an ostrich. It is efficient to be able to quickly categorize objects that one encounters in the world: It enables quick decisions about whether or not to approach a novel object. Social stimuli appear to be represented similarly, and the categories people use to understand other people are called stereotypes.

Attitudes are similarly represented in semantic networks. An attitude object is represented as a node in the network. The evaluation of this attitude object is also represented in the network. The strength of the association between the object and the evaluation of it will determine the accessibility of the attitude. For highly accessible attitudes, there is a strong association between the attitude object and its evaluation. That is, when the node for the attitude object is activated, the strength of the association ensures that the node containing the evaluation of the object is also activated. In this way, judgments can be made rapidly and without extensive reflection. In contrast, for attitudes that are not accessible, the associations between the object and the evaluation of that object are not as strong. In this case, the activation of the object does not spontaneously activate the evaluation of the object. Consequently, it may take more time to activate the judgment.

Having accessible attitudes toward objects in our world is efficient. Accessible attitudes allow us to decide quickly what to approach or avoid without having to consider each object's attributes and whether we consider each attribute desirable or undesirable. Therefore, accessible attitudes serve a knowledge function, or as a frame of reference for how we interpret and understand our world, and often determine what we attend to, how we perceive objects and situations, and how we act.

Implications

Our use of categories to organize our understanding of social stimuli relies strongly on the accessibility of the categories we have in memory. Recent research in the use of stereotypes has shown that accessible constructs are used extensively in categorizing novel social stimuli. That is, we rely on the stereotypes that are accessible to us in deciding how to categorize, think about, and react to new people we meet. Importantly, the use of stereotypes to categorize individuals can be overcome: Work on dual process models of social cognition has demonstrated that the stereotypic judgment, which relies on accessible categories, is a heuristic judgment that occurs spontaneously. With sufficient motivation and time to think about it, this immediate judgment can be modified by a more effortful process or by encouraging individuals to bring to mind a counterstereotypic example.

An important implication of accessible attitudes is that they serve to maintain behavior based on those judgments. Accessible attitudes tend to be stronger than less accessible attitudes: People who hold accessible attitudes are likely to have thought carefully about the reasons supporting those attitudes. Accessible attitudes are also more resistant to persuasion than less accessible attitudes, probably because of this greater awareness of the reasons for holding the attitude. Furthermore, people with accessible attitudes have also probably thought somewhat about the types of arguments that might be used to persuade them to change their attitude and thus are prepared to counterargue efforts to change their minds. Finally, accessible attitudes are more predictive of behavior than less accessible attitudes. Because these attitudes are thought about frequently, they easily come to mind in the presence of the attitude object and thus are more likely to guide behavior.

Accessible attitudes provide unique challenges to people concerned with persuasion, such as health professionals seeking to change unhealthy behavior. For example, cigarette smokers have been found to have highly accessible prosmoking attitudes, and these attitudes serve to maintain their smoking behavior: The more people smoke, the more frequently they think about their reasons for smoking, and the more strongly entrenched their attitudes and their smoking behavior become. Because accessible attitudes can bias the interpretation of persuasive information, these smokers may become more resistant to the idea of quitting smoking. To change such attitudes, it may be useful to find components of the attitude that are less accessible and less central to the arguments to continue smoking. For example, change may be possible by persuading smokers to support laws to limit the access of minors to cigarettes.

In contrast, there may be times when an accessible attitude is desirable, such as an antismoking attitude or an attitude that is favorable toward healthy eating. Attitudes can be made more accessible by repeated expression. That is, someone who reports his or her attitude more times will have a more accessible attitude. Therefore, strengthening positive attitudes toward healthy behaviors may occur in settings in which people are given repeated opportunities to judge the attitude object or behavior. Interventions that engage at-risk groups in discussions of healthy behaviors and allow them to express positive attitudes toward those behaviors may be effective in fostering the desirable behaviors.

Nancy Rhodes

See also Associative Networks; Attitudes; Person Perception; Priming; Social Cognition; Stereotypes and Stereotyping

Further Readings

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ACCOUNTABILITY

Definition

Accountability is the condition of having to answer, explain, or justify one's actions or beliefs to another. It often includes the possibility that you will be held responsible and punished if your acts cannot be justified, or rewarded if your actions are justified. Accountability is a composite of numerous factors: being held responsible for one's actions, presence of another, being identifiable as an actor, evaluation by an audience, and providing validation for one's behavior.

History and Modern Usage

The most salient component of accountability, the idea that we are responsible for our actions, is central to a long-standing debate among philosophers and psychologists: that of determinism versus free will. Determinism suggests that people act based on cause-and-effect relationships and therefore could not have acted any differently than what they actually did, whereas theories of free will suggest that people act of their own volition. Proponents of free will admit that genetics and environment influence decisions; nevertheless, decisions ultimately depend on individual choice. The distinction between the two perspectives lies in the degree of accountability to which people are held. Determinism does not give people the power of choice and therefore denies accountability. Supporters of free will, however, hold people accountable for their behavior in that people ultimately have some choice in what they do.

Many current psychological perspectives follow a deterministic line of thinking. Behavioral psychology explains all of human behavior as a response to expected consequences of environmental stimuli. Neuroscience examines human behavior from the perspective of brain activity and neurotransmitters. Cognitive psychologists liken the mind to a complex processor of information that receives input, processes that input in a systematic manner, and spits out behavior. Even social psychology focuses mainly on deterministic perspectives, rooting the cause of behavior in situational determinants. This focus on deterministic perspectives may be due to the cause and effect nature of science itself, making the study of free will almost impossible from a scientific standpoint. Nevertheless, this places the role of accountability at nil for most explanations of behavioral responses.

Despite the difficulties of studying accountability in its purest sense, recent social psychological research has focused on the effects of choice, control, responsibility, and accountability for one's actions. Evidence has shown that people feel responsible for their behavior, and that people often feel and act as if they may be held accountable for the things that they do. People like to have choices and react aversively when those choices are restricted. Also, accountability seems to be a necessary component to many emotions. It is hard to imagine a situation in which a person would feel

pride, guilt, shame, or embarrassment for acts that he or she does not feel accountable for. Indeed, perceived accountability seems to have a large effect on the way people act.

Effects of Accountability

The mere presence of others is likely responsible for many of the effects of accountability. Human beings are the only animals that participate in complex societies and cultures. Much of our success as individuals hinges on our ability to play by society's rules. Thus, people display a strong need to belong and want to be evaluated positively by others in the group. Those who do so are more likely to reap the positive benefits inherent in group living. When others are in our presence, we have a sense that our behavior is being evaluated. This increases our sense of accountability and results in increased adherence to unspoken social rules and laws outlined by culture.

Nevertheless, accountability is a multifaceted phenomenon. Therefore, its effect on behavior can vary from situation to situation. First of all, the presence of others is not entirely necessary for people to feel accountable. People can feel accountable if they simply believe they will be evaluated and have to justify their decisions.

Increased accountability will alter decision-making strategies. When expecting evaluation from an audience, people will think more carefully about their decisions than they normally would. They will consider the outcomes of their judgments and process the relevant information more deliberatively. Under low-accountability situations, people can process the relevant information superficially, knowing that any decision made will not be scrutinized. Nevertheless, when under increased accountability, a greater consideration of possible counterarguments is necessary as the person must be able to fend off criticism during the evaluation process.

Critical to the decision-making process is whether the opinions of the audience are known or not. If the opinions of the evaluator are known, people will tend to conform to that opinion, as any argument against the majority opinion will be more difficult to defend. Conversely, when the opinions of the evaluator are unknown, people will think more analytically and self-critically about their decision and attempt to look at the issue from multiple perspectives. This is in people's best interest, as they may be asked to justify their decision if it is against what the audience believes.

The effects of accountability will also vary depending on when the person is informed that he or she will be evaluated. If informed about evaluation before making a decision, people will expend more effort to make what they feel to be the correct decision. If informed after their decision has been made, however, people will stick with their original decision and more effort will be expended toward justification of that decision.

The presence of others does not always increase accountability. As group size increases, accountability can decrease. Through a process called deindividuation, people lose their sense of self and become an inseparable part of a collective group. As group size increases, each individual member becomes less identifiable and consequently perceives him- or herself as less accountable for the actions of the group. The reduction in felt responsibility is said to account for the behaviors of people during riots, though this is undoubtedly an extreme example. Deindividuation can also have an effect on group performance at a much smaller level.

Social loafing occurs when the individual members of a group perform at a lower level than they would if they were to perform the task alone. The performance of a group is often measured as the final output of the group rather than individual output. In this low-accountability situation, individuals decrease their own effort in the hopes that others in the group will pick up the slack. Nevertheless, this is only true when individual performance is not measured. If members of a group are told that their individual performance will be assessed, they are more likely to perform as they would if executing the task alone. Under these conditions, people are under an increased degree of accountability, and individual and group performance will increase. Therefore, two heads can be better than one, but only when the individuals are held accountable.

Seth Gitter
E. J. Masicampo

See also Deindividuation; Free Will, Study of; Need to Belong; Social Loafing

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ACHIEVEMENT MOTIVATION

Definition

The term *achievement motivation* may be defined by independently considering the words *achievement* and *motivation. Achievement* refers to competence (a condition or quality of effectiveness, ability, sufficiency, or success). *Motivation* refers to the energization (instigation) and direction (aim) of behavior. Thus, *achievement motivation* may be defined as the energization and direction of competence-relevant behavior or why and how people strive toward competence (success) and away from incompetence (failure).

Research on achievement motivation has a long and distinguished history. In fact, researchers have focused on achievement motivation concepts since the emergence of psychology as a scientific discipline (i.e., the late 1800s), when William James offered speculation regarding how competence strivings are linked to self-evaluation. Achievement motivation is currently a highly active area of research, particularly in the fields of educational psychology, sport and exercise psychology, industrial/organizational psychology, developmental psychology, and social-personality psychology. Achievement motivation research is conducted both in the experimental laboratory (where variables are typically manipulated) and in real-world achievement situations such as the classroom, the workplace, and the ball field (where variables are typically measured).

The task of achievement motivation researchers is to explain and predict any and all behavior that involves the concept of competence. Importantly, their task is *not* to explain and predict any and all behavior that takes place in achievement situations. Much behavior that takes place in achievement situations has little or nothing to do with competence; limiting the achievement motivation literature to behavior involving competence is necessary for the literature to have coherence and structure. That being said, competence concerns and strivings are ubiquitous in daily life and are present in many situations not typically considered achievement situations. Examples include the following: a recreational gardener striving to grow the perfect orchid, a teenager seeking to become a better conversationalist, a politician working to become the most powerful leader in her state, and an elderly person concerned about losing his or her skills and abilities. Thus, the study of achievement motivation is quite a broad endeavor.

Many different achievement motivation variables have been studied over the years. Prominent among these variables are the following: *achievement aspirations* (the performance level one desires to reach or avoid not reaching; see research by Kurt Lewin, Ferdinand Hoppe), *achievement needs/motives* (general, emotion-based dispositions toward success and failure; see research by David McClelland, John Atkinson), *test anxiety* (worry and nervousness about the possibility of poor performance; see research by Charles Spielberger, Martin Covington), *achievement attributions* (beliefs about the cause of success and failure; see research by Bernard Weiner, Heinz Heckhausen), *achievement goals* (representations of success or failure outcomes that people strive to attain or avoid; see research by Carol Dweck, John Nicholls), *implicit theories of ability* (beliefs about the nature of competence and ability; see research by Carol Dweck, Robert Sternberg), *perceived competence* (beliefs about what one can and cannot accomplish; see research by Albert Bandura; Susan Harter), and *competence valuation* (importance judgments regarding the attainment of success or the avoidance of failure; see research by Jacqueline Eccles, Judy Harackiewicz). Achievement motivation researchers seek to determine both the antecedents and consequences of these different variables.

Many achievement motivation researchers focus on one of the aforementioned variables in their work, but others strive to integrate two or more of these constructs into an overarching conceptual framework. One such model that has received significant research attention of late is the hierarchical model of approach–avoidance achievement motivation (see research by Andrew Elliot and colleagues); this model is described in the following paragraphs.

Achievement goals are the centerpiece of the model, and these goals are differentiated according to two basic aspects of competence: how it is *defined* and how it is *valenced.* Competence is *defined* by the standard used to evaluate it, and three such standards are identified: an absolute (i.e., task-inherent) standard, an intrapersonal (i.e., the individual's past attainment or maximum possible attainment) standard, and an interpersonal (i.e., normative) standard. At present, absolute and intrapersonal standards are collapsed together within a "mastery goal" category, and normative standards are placed within a "performance goal" category. Competence is *valenced* by whether it is focused on a positive possibility that one would like to approach (success) or a negative possibility that one would like to avoid (failure).

Putting the definition and valence aspects of competence together yields four basic achievement goals that are presumed to comprehensively cover the range of competence-based strivings. Mastery-approach goals represent striving to approach absolute or intrapersonal competence, for example, striving to improve one's performance. Mastery-avoidance goals represent striving to avoid absolute or intrapersonal incompetence, for example, striving not to do worse than one has done previously. Performance-approach goals represent striving to approach interpersonal competence, for example, striving to do better than others. Performance-avoidance goals represent striving to avoid interpersonal incompetence, for example, striving to avoid doing worse than others.

These achievement goals are posited to have an important and direct impact on the way people engage in achievement activities and, accordingly, the outcomes they incur. Broadly stated, mastery-approach and performance-approach goals are predicted to lead to adaptive behavior and different types of positive outcomes (e.g., mastery-approach goals are thought to optimally facilitate creativity and continuing interest, and performance-approach goals are thought to optimally facilitate performance attainment). Mastery-avoidance and, especially, performance-avoidance goals, on the other hand, are predicted to lead to maladaptive behavior and negative outcomes such as selecting easy instead of optimally challenging tasks, quitting when difficulty or failure is encountered, and performing poorly. A substantial amount of research over the past decade has supported these predictions.

Achievement goals are viewed as concrete, situation-specific variables that explain the specific aim or direction of people's competence pursuits. Other variables are needed to explain why people orient toward different definitions and valences of competence in the first place, and why they adopt particular types of achievement goals. Higher-order variables such as achievement needs/motives, implicit theories of ability, general competence perceptions, and features of the achievement environment (e.g., norm-based vs. task-based performance evaluation, harsh vs. lenient performance evaluation) are used to explain achievement goal adoption. These variables are not posited to have a direct influence on achievement outcomes, but they are expected to have an indirect influence by prompting achievement goals that, in turn, exert a direct influence on achievement outcomes.

Achievement needs/motives may be used as an illustrative example. Two types of achievement needs/motives have been identified: the need for achievement, which is the dispositional tendency to experience pride upon success, and fear of failure, which is the dispositional tendency to experience shame upon failure. The need for achievement is predicted to lead to mastery-approach and performance-approach goals, whereas fear of failure is predicted to lead to mastery-avoidance and performance-avoidance goals. Fear of failure is also predicted to lead to performance-approach goals, a need/motive to goal combination that represents an active striving toward success to avoid failure (i.e., *active avoidance*). The need for achievement and fear of failure are posited to have an indirect influence on achievement outcomes through their impact on achievement goal adoption. A number of empirical studies have provided evidence in support of these predictions, as well as many other hierarchically based predictions (involving other higher-order variables) derived from the model.

Models of achievement motivation are of theoretical importance because they help to explain and predict competence-relevant behavior in a systematic and generative fashion. Such models are also of practical importance because they highlight how factors besides intelligence and ability have a substantial impact on achievement outcomes. Competence is widely considered a basic need that all individuals require on a regular basis for psychological and physical well-being to accrue. The bad news from the achievement motivation literature is that many people exhibit motivation in achievement situations that leads to maladaptive behavior, undesirable achievement outcomes, and, ultimately, ill-being. The good news from the achievement motivation literature is that motivation is amenable to change.

Andrew J. Elliot

See also Regulatory Focus Theory; Self-Efficacy; Self-Regulation; Social Comparison

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ACTION IDENTIFICATION THEORY

Definition

People usually know what they are doing, intend to do, or have done in the past. How people achieve an unambiguous understanding of their behavior is rather remarkable when one considers the variety of ways in which any action can be identified. "Taking a test," for example, could be identified as "showing one's knowledge," "earning a grade," or "answering questions." Action identification theory, developed by Robin Vallacher and Daniel Wegner, specifies the principles by which people adopt a single *act identity* for their behavior and outlines the conditions under which people maintain this act identity or adopt a new one. The interplay of these principles has implications for central issues in social psychology, including self-regulation, vulnerability to social influence, and self-concept.

Action Identification and Behavior

The potential identities for an action, although diverse by many criteria, are hierarchically related in an *identity structure*. Lower-level identities in this structure convey the details of the action and thus indicate *how* the action is done. Higher-level identities convey a more general understanding of the action, indicating *why* the action is done or what its effects and implications are. Identification level is relative, so whether a particular identity is considered a means or an end, a detail or an implication, depends on the identity with which it is compared. The hierarchical level of two identities is indicated when a person performs one act identity *by* performing another. "Showing one's knowledge" is a higher-level identity than "taking a test," for example, because one does the former *by* doing the latter rather than vice versa. "Taking a test," however, is a high-level identity with respect to "answering questions," since one takes a test *by* answering questions.

Action identification is important for the personal control of behavior. Principle 1 of the theory holds that action is undertaken with respect to the act identity that stands out in consciousness. This means that people have an idea of what they are doing or want to do and use this act identity as a frame of reference for implementing the action and monitoring its occurrence. Because act identities exist at different levels in an identity structure, this principle specifies that people can perform an action at different levels. A person may intend to "give a speech," for instance, and monitor his or her behavior to see whether this intention has been fulfilled, or the person may intend to "talk in a deliberate tone" (a lower-level identity) or "persuade others" (a higher-level identity) and monitor the attainment of whichever identity is foremost in his or her mind.

Change in Action Identification

Action identification is a dynamic process, undergoing periods of stability and change in accordance with two principles. Principle 2 holds that when both a lower- and a higher-level act identity are available, there is a tendency for the higher-level identity to become dominant. This means that people prefer to think about their behavior in terms of its goals, effects, and implications, rather than in terms of its more mechanistic components. Thus, when a person has only a low-level understanding of his or her behavior, he or she is predisposed to adopt a higher-level identity offered by other people or made available by the action context. If the person is induced to think about the details of his or her behavior in a recent interaction, for example, he or she is sensitive to how this behavior is identified by other people, because such feedback may provide a more comprehensive (higher-level) understanding of the behavior. As a result, the person might come to believe his or her behavior reflects whatever interpersonal tendency (e.g., cooperation or competition) is conveyed in the feedback. If the feedback is evaluative (i.e., flattering vs. critical), it can affect the person's self-evaluation. The tendency to embrace new high-level identities in favor of current lower-level identities is referred to as the *emergence process.*

Because people act on the basis of their dominant act identity, the emergence process can promote new courses of action. If a person embraces feedback suggesting that his or her behavior reflects competitiveness, for example, he or she may seek out competitive (as opposed to cooperative) activities in the future. Research has established the relevance of the emergence process for behavior change, including the development of new goals (e.g., college activities) and change in habitual behavior (e.g., alcohol consumption).

The emergence process can charge even the simplest act with significance. If it were the only means by which action identification changed, people's minds would be populated by increasingly broad, abstract, and evaluative notions of what they do and what they are like. This possibility is constrained, however, by Principle 3: When an action cannot be maintained in its dominant identity, there is a tendency for a lower-level identity to become dominant. A person may set out to "persuade others," for instance, but unless the action is easily accomplished, he or she may have to think about the action in lower-level terms such as "show command of the facts," "demonstrate sincerity," or "choose the right words." Even if an action is easy, its details may stand out in consciousness if it is somehow disrupted. A poor quality sound system, for example, might disrupt a person's normally persuasive appeal, causing him or her to think about his or her speech clarity or word choice at the expense of the higher-level "persuade" identity. An action's lower-level identities also tend to become conscious when performance is imminent rather than in the distant future or distant past, especially if the action is difficult or complex.

Optimality in Action Identification

The principles of the theory work together to promote a level of identification that is most appropriate or *optimal* for performing the action. There is a press for higher-level action understanding and control, but the emergent identity gives way to lower-level identities if it proves to be an ineffective guide to action execution. But when action control is regained at a lower level, the emergence process is engaged again, making the person sensitive to higher-level identities (including those that differ from the original high-level identities). Over time and with repeated action, the person converges on an identity at a level that enables that individual to perform the action up to his or her capacity. The more difficult or disruption-prone the action, the lower the optimal level of identification. Conversely, *action mastery* is signaled by optimality at high levels of identification, such that action details are integrated into larger action units, which then become the basis for conscious control of the action.

Despite the tendency toward optimality, people sometimes identify what they do at a level that does not reflect the action's difficulty. The potential for *non-optimal identification* is manifest in two ways. First, the action context can make higher-level identities dominant even

when the action's difficulty or unfamiliarity warrants lower-level identification. The promise of external reward, the threat of punishment, evaluation by other people, and competition, for example, all call attention to the outcomes, consequences, and other higher-level meanings of action and thus can impair performance on difficult tasks that require attention to lower-level details. Second, an easy action can be impaired if conscious attention is drawn to its lower-level aspects by some means (e.g., disruption, verbal instruction). Low-level identities are not only unnecessary for easy-to-maintain action, they can also disassemble an action normally integrated with respect to a higher-level understanding. In both cases, non-optimal identification not only impairs performance, but also has been shown to promote anxiety and self-consciousness.

Individual Differences

Vallacher and Wegner developed a scale, the *behavioral identification form,* to assess people's characteristic level of identification. Research employing this scale has found theoretically meaningful differences between individuals who tend to identify what they do in relatively high-level terms (high-level agents) and those who routinely identify their action in lower-level terms (low-level agents). Specifically, low-level agents demonstrate less expertise across different action domains, have a weaker sense of personal control, are more impulsive, are more vulnerable to social influence, are less certain of what they are like with respect to personality traits, and have a less stable self-concept.

Action Identification as a Dynamical System

In emphasizing the link between mental representations and behavior, action identification theory has clear relevance to models of self-regulation. But the theory also depicts processes that are similar to the operation of self-organizing dynamical systems in many areas of science. Thus, an action can be viewed as a set of interdependent elements (lower-level identities) that influence each other to achieve a coherent macro-level state (a higher-level identity). The interplay between Principles 2 and 3, meanwhile, captures the repeated episodes of emergence and disassembly that underlie the evolution of complex systems. This dynamic scenario has been invoked by social psychologists in recent years to establish similarity among very different topics, from

the formation of self-concept to the development of social norms and values in society.

Robin R. Vallacher

See also Dynamical Systems Theory; Goals; Self-Regulation; Temporal Construal Theory

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ACTOR–OBSERVER ASYMMETRIES

Definition

Social psychologists speak of an *observer* perspective when someone perceives, thinks about, or makes a judgment about another person, and they speak of the *actor* perspective when someone thinks or makes a judgment about himself or herself. So if Jared storms out the door and Evelyn wonders why he does that, Evelyn is in the observer perspective and Jared is in the actor perspective. When the actor and the observer arrive at different judgments, we are faced with an *actor–observer asymmetry*.

Importance

Why are actor–observer asymmetries interesting? Actor and observer are the two fundamental perspectives in social cognition: People make judgments either about self or about others; there is no third. So to understand the nature of social cognition, scientists must understand the nature of these two perspectives, especially the conditions under which they differ. That is because some of the biggest challenges of social life involve the discrepancy between actor and observer perspectives. For example, people typically know why they act the way they do, but often they are confused about why others act the way they do. Similarly, to get along with others it isn't enough to understand our own goals and attitudes; we need to understand other people's goals and attitudes as well—especially when they might be different from our own. Actor–observer asymmetries cause gaps in people's understanding of the social world, and scientific research on actor–observer asymmetries tries to identify these gaps and perhaps sharpen people's tools to bridge the gaps—tools such as explanation, perspective taking, and negotiation.

The Classic Hypothesis

The primary actor–observer asymmetry social psychologists have studied is an asymmetry in causal attribution—in how actors and observer *explain* social behavior or social outcomes. Suppose a student received a D on the statistics exam; why did he or she receive this grade? As observers, we might think the student didn't study or just isn't good at statistics. But if the student is asked to explain the D, the student might say that the exam was very hard or that the teacher must have graded it harshly. This difference in explanations is typically described as one between observers citing *person causes*—causes that reside in the actor (*the student* didn't study or lacks ability)—and the actor citing *situation causes*—causes that lie outside the actor (the *exam* was hard or *the teacher* graded harshly). This is in fact what social psychologists Edward E. Jones and Richard Nisbett formulated in 1972 as the now classic actor–observer hypothesis: Actors tend to explain their own behavior with situation causes, whereas observers tend to explain the actor's behavior with person causes. Virtually all textbooks in social psychology and general psychology mention this hypothesis and describe it as a well-established truth. But a hypothesis is only as good as the research evidence that supports it, so what does the research say?

Empirical Tests

Recently, Bertram Malle reviewed more than 100 research articles that had tested the classic actor–observer hypothesis. When the results of all these

articles were averaged, there was very little evidence that the hypothesis is true. How little evidence? Researchers can measure the strength of a hypothesis by determining how much better it allows them to predict an event than a blind guess would. If researchers try to predict whether an actor will cite a person cause or a situation cause, they could either guess (e.g., flip a coin), and will by chance be correct in 50% of cases, or they could use the actor–observer hypothesis. If they rely on this hypothesis, they will be correct in 53% of the cases. Thus, the classic actor–observer hypothesis is barely better than a blind guess.

There are situations, however, when the classic actor–observer hypothesis does better. If researchers want to predict how actors and observers explain *negative* events and if they follow the hypothesis that the actor will provide a situation cause, they will be right in about 57% of the cases. Unfortunately, the opposite happens when they want to predict how actors and observers explain *positive* events. If they bet again on the actor giving more situation causes, they will be *wrong* in 56% of the cases. This means that the *opposite* hypothesis is actually true: For positive events, actors give more person causes and observers give more situation causes. If the classic actor–observer hypothesis holds reasonably true for negative events but the opposite hypothesis holds true for positive events, it means that on average (across events), there may just be no actor–observer asymmetry.

But this finding contradicts intuitions. Actors do know more about their own goals and feelings and about their own history (e.g., past exam grades, past actions). Shouldn't that lead to an asymmetry between actors and observers in how they explain behaviors and outcomes (even positive ones)? The answer is yes—but the relevant differences cannot be seen if the explanations are interpreted as simple decisions between "person causes" and "situation causes."

New Hypotheses

People's explanations of behaviors and outcomes are more complex than the person–situation dichotomy suggests. First, people make a sharp distinction between unintentional and intentional events. Unintentional events (e.g., tripping, being sad) are explained by *causes,* and—if needed—these causes can be classified as located in the person or in the situation. But when it comes to intentional actions, people have a more sophisticated approach. They recognize that one can

explain a person's action by mentioning the *reasons* the person had for acting—in light of the goal and beliefs held by the person pursuing the action (e.g., "I studied all week because . . . I knew the test counted for 60% of my grade, and I really want to do well in this class"). Such *reason explanations* are the most common explanations people give for intentional actions. In addition, people sometimes explain intentional actions by referring to background factors, such as the person's personality, culture, childhood experiences, unconscious forces—all things that can influence intentional actions but are not the *reasons* for which the agent chose them (e.g., "She studied all week, never went out because . . . she is from a hardworking family, she's very dedicated"). These explanations are called *causal history of reason* explanations. When Ann says, "I voted for him because I wanted to see a more open-minded social policy," she is giving a reason explanation; when Blake says, "Ann voted for him because she grew up in a liberal family," Blake is giving a causal history of reason explanation. Blake's explanation implies that Ann had *some* reason, but he may not know the specific reason and therefore offers a background factor that he does know about.

Research shows that actors give far more reason explanations (relative to causal history of reason explanations) than observers do. Knowing about this asymmetry allows us to be right in 67% of cases (and wrong in 33% of cases) when predicting actors' and observers' explanations. So this is a powerful asymmetry, and it holds whether the explained action is negative or positive.

There are other features of explanation that show actor–observer asymmetries. Among the reasons people give to explain actions are some that refer to the agent's thoughts or beliefs that went into the action (called *belief reasons*) and some that refer to the agent's goals or desires (called *desire reasons*). Desire reasons focus on what the agent wants (and doesn't have), whereas belief reasons highlight the agent's thinking and rational consideration of the world. Research has found a strong actor–observer asymmetry here: Actors offer more belief reasons (relative to desire reasons) than observers do, and knowing about this asymmetry allows researchers to be right in 62% of the cases when predicting actors' and observers' explanations.

There are a few other interesting asymmetries, described in more detail in the literature, but this much is clear: The intuition that actors and observers give different explanations is true after all. But to capture

these differences, it isn't enough to talk about person and situation causes; researchers must consider how people actually explain behavior: with causal histories of reasons, reasons, belief reasons, and so on.

Researchers also have begun to explore why these asymmetries exist and have identified two main processes. One is cognitive: how much the explainer knows about the behavior or outcome. Giving reason explanations, especially belief reasons, requires specific knowledge that observers sometimes lack, and that is in part why actors offer more (belief) reasons. The second process is motivational: whether the explainer is specifically trying to portray the agent (self or other) in a positive light. Here, reasons and especially belief reasons make the agent look more rational and "in control," so actors prefer to offer those kinds of explanations.

Research on the original actor–observer asymmetry in attributions had a strong impact on the study of other asymmetries, and social psychologists discovered a number of them. For example, in social interactions, actors focus their attention more on their own experiences, whereas observers focus more on the other person's actions. Also, most people consider their own personality to be more complex and less fixed than other people's personalities.

What social psychologists have learned from this research is that people face a fundamental challenge in social life: Perceiving, understanding, and reasoning about people are different when they are about oneself than when they are about another person. This challenge must be met, and the gaps between actors and observers overcome, if social interactions are to be successful.

Bertram F. Malle

See also Attributions; Attribution Theory; Self-Serving Bias; Social Cognition

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Adaptive Unconscious

Definition

Automatic processes are processes that are unconscious, unintentional, uncontrollable, and efficient (i.e., they do not require cognitive resources). The term *adaptive unconscious* refers to the fact that these automatic processes evolved because they are beneficial to people who rely on them. People have to process extensive amounts of information on a daily basis to be able to function effectively and navigate their social worlds. Because people have limited amounts of cognitive resources, there would be no way to process all of this information at a conscious level. In other words, people can only consciously think about a very small amount of the information with which they are confronted. Therefore, people have developed a set of automatic processes that can help them to accomplish all of their daily tasks. Due to the usefulness and helpfulness of these unconscious processes, they are collectively referred to as the *adaptive unconscious*.

History and Modern Usage

The existence and characteristics of the unconscious have been important areas of study in philosophy and psychology. Although many people discussed unconscious processes prior to the work of Sigmund Freud, most psychologists would acknowledge that he was one of the first people to recognize that many mental processes occur without conscious awareness. Because some of Freud's ideas have not been supported, the unconscious processes that he discussed are somewhat different from the unconscious processes that form the adaptive unconscious.

It is difficult to list all of the unconscious processes that are a part of the adaptive unconscious because there are so many of them. Some processes are unconscious because they evolved before consciousness did. For example, some parts of the human mind simply cannot be understood consciously. People have no conscious access to perceptual processes (e.g., light

waves transforming into images, sound waves transforming into sound), how memories are formed, how humans balance while walking, or how people learn and process language. Yet all of these processes occur, and it is the adaptive unconscious that allows them to happen. Beyond these sensory processes, there also are higher-order processes that are part of the adaptive unconscious. People often express emotions and personality, make judgments and decisions, form impressions and evaluations, learn information, and even pursue goals without conscious awareness or attention. Thus, the cognitive processes that form the adaptive unconscious are both useful and sophisticated.

It is important to note that although these unconscious processes are called adaptive, that does not mean that they always result in accurate knowledge or correct decisions. For example, relying on unconscious processes to form impressions could result in using stereotypes to understand another person's behavior. More often than not, however, these processes allow people to survive in their social worlds, which was, and still is, an evolutionary adaptation.

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See also Automatic Processes; Controlled Processes

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Affect

Definition

Affect refers to the positive or negative personal reactions or feelings that we experience. *Affect* is often used as an umbrella term to refer to evaluations, moods, and emotions. Affect colors the way we see the world and how we feel about people, objects, and events. It also has an important impact on our social interactions, behaviors, decision making, and information processing.

Distinctions Among Types of Affect

Evaluations are general positive or negative feelings in response to someone or something specific. For example, if you experience negative feelings in response to your new roommate, your evaluation of the person is based upon these feelings. Such evaluations are said to be affect based.

Moods, like evaluations, are also experienced as general positive or negative feelings; however, they are not elicited in response to anyone or anything specific. When you are in a bad mood, you are unable to identify the specific cause of your feelings. For this reason, people sometimes say that they are in a bad mood because they "woke up on the wrong side of the bed." Moods are not directed toward a person or an object. Thus, for example, while you may have a negative reaction to your roommate, you would not have a negative mood toward your roommate. Moods are like evaluations in that they tend to be relatively long-lasting.

In contrast to both evaluations and moods, emotions are highly specific positive or negative reactions to a particular person, object, or event. Emotions tend to be experienced for relatively short periods of time and generally have shorter durations than moods or evaluations. Emotions tend to be more intense than moods and allow us to describe how feel more clearly than do moods or evaluations. That is, we can specify exactly what type of negative feelings we are experiencing. For example, if your roommate steals your book, you may say that you feel angry, rather than simply say that you feel negatively. Further, other negative emotions (e.g., sadness and fear) can be differentiated from anger by the different situations and circumstances that produced them and how they are experienced.

Relationship Between Affect and Cognition

Affect is often contrasted with cognition (i.e., thoughts), but their relationship is not clear-cut. Some researchers believe that affect cannot occur without cognition preceding it, whereas others believe that affect occurs without a preceding cognitive component. Much of this debate has to do with the specific type of affect that individuals are referring to. Many scholars agree that cognition is necessary in order for emotions to be experienced, whereas cognition may not be necessary for individuals to express preferences or evaluations.

Affect can exert an influence on cognitive processes. For example, one's affect can influence one's tendency to use stereotypes. Individuals in happy moods are more likely to use stereotypes when forming impressions of others than are people in sad moods. Further, individuals in happy moods are less influenced by the strength of a persuasive argument than are those in sad moods. Happy moods also lead to increased helping behavior.

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See also Affect-as-Information; Emotion; Nonconscious Emotion; Positive Affect

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Affect-as-Information

Definition

How do we know whether or not we approve of some action or like some person? According to the affect-as-information hypothesis, our feelings provide such information. Just as our smiles and frowns provide information about our reactions to others, our positive and negative feelings provide such information to ourselves. Like many psychological processes, emotional appraisals are generally unconscious. Hence, having evaluative information available from affective feelings can be highly useful.

Affective reactions are forms of evaluation, and experiencing one's own affective reactions provides information that something good or bad has been encountered. Such information can be compelling, because it may involve not only thoughts but also feelings, bodily reactions, and even action. Thus, specific emotions, like embarrassment, involve distinctive thoughts, feelings, and expressions, whereas general moods are less differentiated. Affective states can be thought of as having two components—affective valence, which provides information about how good or bad something is, and affective arousal, which signals its importance or urgency. Most research focuses on valence, but recent studies also examine arousal. They find that assessing events as important causes a release of adrenaline, which results in its consolidation into long-term memory. Thus, people remember well the events of September 11, 2001, but perhaps not so well those of September 10, 2001. For victims of highly traumatic events, such arousal-powered memories can become stressful and even disabling.

Judgment

Psychologists have traditionally argued that attitudes and evaluations depend on people's beliefs about what they are judging. In the early 1970s, social psychologist Charles Gouaux examined how variation in feelings (from mood-inducing films) and beliefs (about another person's political opinions) influenced liking. Gouaux found that the affective feelings of one person influenced attraction or dislike of another over and above the influence of the cognitive beliefs about that person.

But even after many demonstrations that affect influences attitude, the assumption persisted that such evaluative judgments must reflect evaluative beliefs. Positive or negative feelings were assumed to activate positive or negative beliefs about the person, which in turn influenced judgment. In contrast, the affect-as-information view said that evaluative judgments are often made simply by asking oneself, "How do I feel about it?"

As part of a study of this process, people were telephoned and asked questions about their life satisfaction. They were called on early spring days that were either warm and sunny or cold and rainy. People reported more positive moods and greater life satisfaction on sunny than on rainy days. The explanation was that the weather influenced satisfaction ratings, because people misattributed their feelings about the weather as feelings about their "life as a whole." To test this explanation, experimenters said they were calling from another city, so that they could ask some respondents, "How's the weather down there?" When

respondents' attention was directed to the weather, the mood influences on life satisfaction disappeared. Asking about the weather did not influence the feelings themselves, but it did influence their apparent meaning. The experiment established that affect could influence evaluative judgment directly by conveying information about value.

Since emotions are rapid reactions to current mental and perceptual content, people generally know what their emotions are about. But the causes of moods and depressed feelings are often unclear. Without a salient cause, feelings become promiscuous, attaching themselves to whatever comes to mind. As a result, the affect from moods can influence judgments, and enduring feelings of depression and anxiety can create a discouraging and threatening world.

These considerations suggest that many influences of affect depend on the attributions that people make for their feelings, rather than on the feelings themselves. To study this process, experiments often encourage misattributions of feelings from their true source to a different object. Efforts to get people to misattribute their feelings are also common in everyday life. For example, advertisers often pair products with exciting or suggestive images to foster misattribution of that excitement to the product being marketed.

Despite the fact that experiments and advertising are sometimes designed to fool people, social psychologists generally view affect as adaptive and functional, in contrast to traditional views of affect as a source of irrationality and bias. Emotion does sometimes conflict with rational choice, but affect is also essential to good judgment. Studies of neurological damage show that the inability to use affective reactions to guide judgments and decisions is costly. Similarly, research on emotional intelligence suggests that being able to extract information from one's own and others' affective reactions is highly beneficial.

Decision Making

Psychologists now believe that the process of decision making takes place largely unconsciously. As a result, deciding explicitly often involves entertaining alternatives until one is visited by a feeling that one has decided. When ordering food from a menu or selecting a video to watch, one may look until something feels right. Thus, decisions are hard when none of the alternatives feels right or when more than one alternative elicits such feelings. Making important decisions in

the absence of an experience of rightness may therefore be stressful. For men and women considering marriage, for example, saying yes without feeling anything would surely be anxiety provoking.

A well-known model and actress recently described her devastation when, after realizing her lifelong dream of having a baby, she felt nothing as she held her new daughter. Feelings of attachment, intimacy, and nurturance are so basic to birth and motherhood that the woman concluded from their absence that she was profoundly unworthy. She even considered suicide, but fortunately, treatment for postpartum depression allowed the appropriate feelings to arise. Only then could she say confidently that she loved her daughter or herself.

Affect-as-Evidence

The affect-as-information hypothesis assumes that people's feelings inform them about what they like, want, and value. When a belief that one values something is not validated by embodied affective reactions, the person is faced with an epistemic problem. Such disparities between affective beliefs and embodied affect have been studied in the laboratory. Investigators have developed simple procedures for activating happy or sad thoughts and also for eliciting feelings, facial expressions, and actions characteristic of happiness and sadness. They find that when people's cognitions and affect do not agree, their ability to remember presented material suffers, as does the speed with which they can make simple choices. From the standpoint of cognitive efficiency, when thinking sad thoughts, it is apparently better to feel sad than to feel happy. Just as people's beliefs about the world are subject to validation by what they see and hear, so too do evaluative beliefs appear to require validation by one's own feelings, expressions, and actions.

Thinking

Affect guides not only judgments and decisions but also attention and styles of thinking. During task performance, affect may be experienced as information about the task or about how one is doing, rather than as information about how much one likes something. Such task information leads to adjustments in cognitive processing or cognitive tuning. Research suggests that positive affect promotes global, interpretative processing and negative affect leads to local, perceptual processing. Thus, whether one focuses on the forest or

the trees and whether one uses one's own mental associations or not appear to be controlled by affect. Since many of the phenomena that have defined cognitive psychology involve reliance on such cognitive responses, it turns out that many of them are not observed in sad moods. Research shows that such textbook phenomena as categorization, stereotyping, persuasion, impression formation, false memory, heuristic reasoning, and others are all more apparent in happy moods than in sad moods. Ultimately, whether it is better to be happy or sad when engaged in cognitive tasks depends on the nature of the task. Positive affect may promote creativity and performance on constructive cognitive tasks, but it may promote error on some detailed tasks such as solving logical syllogisms. These effects too have been found to depend on the attributions that participants make for their affect.

Summary

According to the affect-as-information view, people are informed by their affect, even though they produce it themselves. Moreover, rather than being fixed and reflex-like, affective influences can often be altered by simple cognitive manipulations. Thus, the information value of the affect, rather than the affect itself, is often the critical factor in its influence. This view can also be generalized to nonaffective feelings. For example, the information from bodily feelings of pain depends on attributions about its source (e.g., where it hurts). Likewise, cognitive feelings of the ease of recalling something influence whether it seems true. Moreover, the impact of these feelings also depends on attributions about their source.

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See also Affect; Attributions; Decision Making; Depression; Emotion; Misattribution of Arousal; Self-Perception Theory

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AFFECT HEURISTIC

Definition

A judgment is said to be based on a heuristic when a person assesses a specified target attribute (e.g., the risk of an approaching stranger in the street) by substituting a related attribute that comes quickly to mind (e.g., intuitive feelings of fear or anxiety) for a more complex analysis (e.g., detailed reasons or calculations indicating why the risk is high or low).

The affect heuristic describes an aspect of human thinking whereby feelings serve as cues to guide judgments and decisions. In this sense, affect is simply a feeling of goodness or badness, associated with a stimulus object. Affective responses occur rapidly and automatically—note how quickly you sense the feelings associated with the word *treasure* or the word *hate*. Reliance on such feelings can be characterized as the *affect heuristic*.

Examples and Implications

A cartoon by *Doonesbury* creator Garry Trudeau shows two rather innocuous-looking strangers approaching each other on a street at night and trying to decide whether it's safe to acknowledge the other with a greeting. The bubbles above each man's head give the reader a view of their thought processes as they decide. Both are going through a checklist of risk factors (race, gender, hair length, style of dress, etc.) pertaining to the approaching person and a checklist of risk-mitigating factors (age over 40, carrying Fed Ex package, carrying briefcase, etc.). For both, the risk-mitigating factors outnumber the risk factors 4 to 3, leading the risk to be judged acceptable. The men greet each other.

What is interesting and perhaps amusing about this cartoon is that no one would judge the risk of meeting a stranger on a dark street this way, even if his or her life depended on making the right judgment. Instead

this "risk assessment" would be done intuitively. The features of the approaching stranger would trigger positive or negative *feelings,* of reassurance or alarm. These feelings would be integrated quickly into an overall feeling of safety or concern, and that feeling would motivate behavior—"Good evening," eye contact or not, perhaps even crossing the street. Reliance on feelings is an example of the affect heuristic.

The cartoon is psychologically important because it acknowledges, in part implicitly, that there are two ways people process information when making judgments and decisions. One way, called the *analytic system,* is conscious, deliberative, slow, and based on reasons, arguments, and sometimes even formulas or equations (e.g., the risk checklist). The other is fast, intuitive, based on associations, emotions, and feelings (affect); it is automatic and perhaps at an unconscious level. This is called the *experiential system.*

The experiential system and the analytic system are continually active in one's brain, cooperating and competing in what has been called "the dance of affect and reason." Philosophers have been discussing the intricacies of this dance for centuries, often concluding that the analytic system enables one to be "rational," whereas feelings and emotions "lead one astray."

Today, this interplay between "the heart and the mind" is actively being studied by social and cognitive psychologists, decision theorists, neuroscientists, and economists. This scientific study has led to some new insights into thinking and rationality. Researchers now see that both systems are rational and necessary for good decisions. The experiential system helped human beings survive the long evolutionary journey during which science wasn't available to provide guidance. Early humans decided whether it was safe to drink the water in the stream by relying on sensory information, educated by experience. How does it look? Taste? Smell? What happened when I drank it before? In the modern world, people have come to demand more of risk assessment. Scientists now have tools such as analytic chemistry and toxicology to identify microscopic levels of contamination in water and describe what this means for people's health, now as they drink it and perhaps even decades into the future.

Social psychologists study the dance of affect and reason by creating controlled experiments that show these two systems, experiential and analytic, in action. In one experiment, subjects are recruited to take part in a study of memory. They go into Room 1, where they are given a short (two-digit) or a long (seven-digit) number to memorize. They are asked to walk to Room 2 and report this number. On the way to Room 2, they are offered a choice of a snack, either a piece of chocolate cake or a bowl of fruit salad. The study's hypothesis, which was confirmed, was that persons holding the seven-digit number in memory would be less able to rely on analytic thinking which, if used, would provide reasons why the fruit salad was better for them. Instead, they were predicted to rely on the experiential (feeling-based, affective) system, which is less demanding of cognitive resources and this would lead them to choose the appealing chocolate cake. Among persons holding seven digits in memory, 63% chose the cake. Only 41% of those memorizing two digits chose the cake. This study showed that reliance on experiential thinking, relative to analytic thinking, increased as cognitive capacity was reduced (by the memory task). Research is actively under way to determine whether the balance between analytic and experiential thinking is also changed by factors such as time pressure, task complexity, poor health, advanced age, and powerfully affective outcomes and images.

The affect heuristic is an efficient and generally adaptive mechanism that helps individuals navigate easily through many complex decisions in daily life. However, it can also mislead people. For example, advertisers and marketers have learned how to manipulate people into purchasing their products by associating these products with positive images and feelings. Cigarette advertising is a prime example of this.

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See also Affect; Automatic Processes; Dual Process Theories; Heuristic Processing

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Affect Infusion

Definition

Affect infusion occurs when feelings (moods, emotions) exert an invasive and subconscious influence on the way people think, form judgments, and behave in social

situations. Affect can influence both the content of thinking and behavior (*informational effect*), and the process and style of thinking (*processing effects*). Some examples of affect infusion include (a) forming more negative judgments of a person when in a bad mood, (b) being more cooperative and friendly in a bargaining encounter due to a positive affective state, and (c) paying more systematic attention to the details of a judgmental task when in a negative rather than a positive affective state. Mild, subconscious moods can be an especially important source of affect infusion, and paradoxically, affect infusion is most likely when a person needs to deal with a more complex and demanding task that requires more open, constructive thinking.

History

The possibility that affective states can exert an invasive influence on thinking and behavior has long been recognized by writers and philosophers, but the reasons for these effects remained incompletely understood until very recently. Some classical conditioning theories suggest that unrelated affective states can influence thoughts and actions simply because they coincide in space and time. For example, in John B. Watson's well-known Little Albert Studies, young children could be conditioned to respond with fear to a previously innocuous target, a furry rabbit, when encountering the rabbit coincided with loud noise. In other work, evaluations of a newly met person could be influenced by the irrelevant affective states elicited by being in a pleasant or an unpleasant room. Within psychodynamic (Freudian) work, attempts to repress affective states were thought to result in the infusion of affect into unrelated judgments and activities. For example, people who were instructed to suppress their fear of an expected electric shock were more likely to see others as fearful (project fear) compared to another group who were not trying to suppress their fear.

Mechanisms

Contemporary theories emphasize the cognitive (mental) processes that underlie affect infusion and link feelings to thoughts and behavior. Affect can influence the content of thinking due to two psychological processes: through memory processes (*affect priming effects*) and through misattribution processes (*affect-as-information effects*). According to affect priming theory, affective states make it easier for people to remember, think of, and use affect-related thoughts and ideas (mood

congruence), as well as concepts that were experienced in a matching rather than a nonmatching affective state (mood–state dependence). Thus, a happy person will selectively remember and use concepts that are positive rather than negative, and so will make more positive judgments and interpretations about ongoing events than will a sad person. The greater availability in memory of affectively congruent ideas can also exert an affect-consistent influence on what people pay attention to, what they recall, the kind of inferences they make, as well as judgments and, ultimately, behaviors. According to the second process, people may sometimes mistakenly use their affective state as a shortcut (heuristic cue) to infer their evaluative reactions to a target (the "how-do-I-feel-about-it" heuristic). This latter process is most likely when the processing capacity and processing motivation are limited, and so a simple, easy-to-generate response is acceptable.

Not only can affect color the information people remember and use and the content of their thinking, it can also influence how a task is processed. Generally, positive affective states tend to produce a more open, constructive, creative information processing style, where preexisting schematic knowledge predominates (assimilative processing). Negative affect in turn promotes a more systematic, detail-oriented, and externally focused processing style (accommodative processing). These processing differences are most likely due to the influence of positive and negative affective states in signaling to the person that the surrounding situation is either beneficial or threatening. Positive mood indicates that the situation is safe and preexisting knowledge can be applied, and negative mood signals that the situation is potentially dangerous and requires a more detailed information-processing style that pays greater attention to new information.

Integrative theories such as the affect infusion model emphasize the critical role that different information processing strategies play in determining whether, and to what extent, affective states are likely to infuse thoughts, judgments, and behaviors. This model identifies four distinct processing strategies relative to the degree of effort (how hard a person tries to deal with a problem) and the degree of openness (the extent to which new information is sought rather than old knowledge is used). The four processing (thinking) strategies identified by the affect infusion model are direct access processing (low effort, closed), motivated processing (high effort, closed), heuristic processing (low effort, open), and substantive processing (high effort, open). Responses based on the direct access and

motivated processing styles should be impervious to affect infusion, but heuristic and substantive processing should produce affect infusion.

Evidence

Affect Congruent Effects

Numerous experimental studies have demonstrated affect infusion into memory, thinking, judgments, inferences, and behaviors. Simple, uninvolving, off-the-cuff judgments in response to telephone surveys or street surveys, when processing motivation and resources were limited, show significant affect infusion consistent with the heuristic processing strategy. More elaborately and substantively processed judgments about the self, others, attributions for success and failure, and intimate relationships all show affect congruence consistent with affect-priming mechanisms and the substantive processing strategy. Several experiments have specifically measured processing variables such as processing latencies and recall memory and found evidence supporting the process-mediation of these effects. Affect infusion was also found to exert an affect-congruent influence on complex, strategic social behaviors that require substantive processing, such as negotiation, the use of verbal requests, and responses to public situations.

Consistent with the affect infusion model, several studies found that tasks that require more open and elaborate thinking will, paradoxically, be more influenced by a person's affective state. This occurs because more extensive thinking tends to magnify affect infusion, as people are more likely to use affectively primed thoughts and associations to perform such more demanding tasks. For example, affect was found to have a great influence on judgments about more unusual rather than typical people, badly matched rather than well-matched couples, and serious rather than simple relationship conflicts.

Processing Effects

Other experiments have found that positive and negative affect promote qualitatively different information processing styles. People in induced negative moods paid better attention to the situation they found themselves in, were less likely to succumb to common judgmental biases such as the fundamental attribution error, were more resistant to incorporating misleading details into their eyewitness memories, and produced higher-quality and more effective persuasive arguments, consistent with the more accommodating, systematic,

and externally focused processing style recruited by negative affect.

Significance and Implications

These findings suggest that the experience of an affective state, including mild, everyday moods, can often have an insidious and little appreciated influence on almost everything people think and do. This occurs even when the source of the affective state has nothing to do with the task at hand. For example, feeling happy because it is a sunny day can make a person form more positive judgments about a variety of issues that have nothing to do with the weather. Negative affect can subtly influence the way people evaluate themselves, their partners, and the world, and positive affect can lead to more optimistic judgments and inferences and more confident and cooperative interpersonal behaviors. Many of these effects can be understood as the cognitive consequences of affective states, affect priming mechanisms in particular. A better understanding of when, why, and how affect infusion occurs is of considerable practical importance in clinical, organizational, and health psychology.

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See also Affect; Impression Management

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Affordances

Definition

When you look around a room, what do you see? You may say that you see chairs, tables, flooring, bookshelves, and walls. And at one level, perhaps you do. According to James J. Gibson's ecological theory of perception, at another level you see possibilities for action. These possibilities for action are termed *affordances*.

Analysis

The mantra of this approach is, as Gibson noted in 1979, that "perception is for doing." We perceive the world not to create an accurate internal representation of an external reality as an end in itself. Rather, our

perceptual systems have been tuned, over the course of evolution, to pick up information that is *useful*—ultimately, from an evolutionary perspective, useful to tasks that, in ancestral environments, would have enhanced survival and reproduction. To pick up that information, it is unnecessary to first create a big picture of the world inside of our head and then identify, within that picture, what we find useful. Rather, according to Gibson, information pertinent to useful action is perceived "directly."

Gibson invented the term *affordance* to refer to the features of objects that are useful to action. A meaning of the term *afford* is "to make available" or "to provide." An affordance is a feature that makes available a course of action. A passageway affords movement through space. A doorknob affords grasping. A ripe apple affords eating.

Affordances, Gibson argued, really do exist in the world. The world is there to be navigated though, climbed, consumed, and it contains dangers that must be avoided as well. Features of the world that facilitate effective action are directly perceived and acted upon. Gibson's approach can be contrasted with a different view of perception—the idea that we first construct a view of the world—create a "picture" of the world in our heads—and then identify within that picture what is useful. Gibson argued that much useful information is embodied in the environment. Value and utility for organisms exist in the world. Our perceptual senses have been tuned to "pick up" this information.

Because features have different affordances for different organisms, different organisms will see the world differently at a fundamental level. Indeed, a good way to appreciate what Gibson meant by an affordance is to imagine the world through two different sets of eyes. For you, a "stair" affords climbing. If a stair riser's height is less than 88% of an individual's lower leg length, the stair can be climbed in a bipedal fashion. If its height is greater than that amount, it cannot. A stair of appropriate height affords climbing, and we pick up information about climbability. That affordance exists in the world for us. For a house cat, this same stair also affords climbing—though of course the cat will not climb it with two feet, as we will. A house cat will also pick up the feature "climbable" in a set of stairs.

Now consider a table. For you, a table has an affordance to set things upon. It has an affordance to sit at—and thereby to eat at and work at. For a cat, a table does not have these affordances. Instead, a table has an affordance to be jumped upon and thereby explored. You do not typically perceive a table as something to be jumped upon to be explored. According to Gibson, then, you and a cat perceive a table in fundamentally different ways. You look at a table and see "something to set things upon." A cat looks at a table and sees "something to be jumped upon."

Consider an interesting thought experiment: Imagine what it must be like to exist as another organism—a cat, a bird, a snake, a housefly. In fact, technological, "virtual reality" tools that allow us to strap on a pair of special glasses and take a true "bird's eye" view of the world as it flies may soon be available. Or perhaps virtual reality technology that allows us to see the world from the perspective of a rattlesnake lying in the grass waiting for a prey animal to wander by is in the near future. Or is it? According to Gibson's theory, probably not. Though technology that allows us to see the world as *we* would see it if we could fly like a bird or lie in the grass like a snake might be possible, we cannot truly *see* the world as *these animals* do, for we do not have bird or snake brains that have been tuned, over the course of their evolution, to pick up information useful to *them* in particular ways. (We may see a rabbit pass by when in a machine, giving us a virtual reality picture of what it'd be like to be lying curled up in tall grass, but we will not *see* a passing rabbit in the same way as a snake does because rabbits don't have affordances for us that they do for rattlesnakes—things to be struck at.) Because perception of affordances is so fundamental, grown people can't possibly see the world as anything but one that grown people have been designed to see—a world defined in terms of information useful to grown people.

In 1983, Leslie Zebrowitz McArthur and Reuben Baron published an important article in *Psychological Review* introducing Gibson's approach to many social psychologists. (Gibson himself actually had a long-standing interest in social psychology and taught the course at Cornell for many years.) At the time of this writing, there is a set of papers claiming that people are inaccurate in their social perceptions because people use shortcuts to quickly size up the world rather than fully consider all of the information. McArthur and Baron argued that some shortcuts might actually be very effective ways to size up social situations in natural environments. Might this person be a friend? A foe? And how can you make a decision?—quick! They urged research into the affordances that exist within the social world. This form of thinking appears in recent work in evolutionary psychology.

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AGGRESSION

Definition

In sports and in business, the term *aggressive* is frequently used when the term *assertive, enthusiastic,* or *confident* would be more accurate. For example, an aggressive salesperson is one who tries really hard to sell you something. Within psychology, the term *aggression* means something different. Most social psychologists define *human aggression* as any behavior that is intended to harm another person who wants to avoid the harm. This definition includes three important features. First, aggression is a behavior. You can see it. For example, you can see a person shoot, stab, hit, slap, or curse someone. Aggression is not an emotion that occurs inside a person, such as feeling angry. Aggression is not a thought that occurs inside someone's brain, such as mentally rehearsing a murder one is about to commit. Aggression is a behavior you can see. Second, aggression is intentional. Aggression is not accidental, such as when a drunk driver accidentally runs over a child on a tricycle. In addition, not all intentional behaviors that hurt others are aggressive behaviors. For example, a dentist might intentionally give a patient a shot of novocaine (and the shot hurts!), but the goal is to help rather than hurt the patient. Third, the victim wants to avoid the harm. Thus, again, the dental patient is excluded, because the patient is not seeking to avoid the harm (in fact, the patient probably booked the appointment weeks in advance and paid to have it done!). Suicide would also be excluded, because the person who commits suicide does not want to avoid the harm. Sadomasochism would likewise be excluded, because the masochist enjoys being harmed by the sadist.

The motives for aggression might differ. Consider two examples. In the first example, a husband finds his wife and her lover together in bed. He takes his hunting rifle from a closet and shoots and kills both individuals. In the second example, a "hitman" uses a rifle to kill another person for money. The motives appear quite different in these two examples. In the first example, the man appears to be motivated by anger. He is enraged when he finds his wife making love to another man, so he shoots both of them. In the second example, the hitman appears to be motivated by money. The hitman probably does not hate his victim. He might not even know his victim, but he kills that person anyway for the money. To capture different types of aggression based on different motives, psychologists have made a distinction between hostile aggression (also called affective, angry, impulsive, reactive, or retaliatory aggression) and instrumental aggression (also called proactive aggression). *Hostile aggression* is "hot," impulsive, angry behavior that is motivated by a desire to harm someone. *Instrumental aggression* is "cold," premeditated, calculated behavior that is motivated by some other goal (e.g., obtain money, restore one's image, restore justice).

One difficulty with the distinction between hostile and instrumental aggression is that the motives for aggression are often mixed. Consider the following example. On April 20, 1999, the 110th anniversary of Adolf Hitler's birthday, Eric Harris and Dylan Klebold entered their high school in Littleton, Colorado (United States), with weapons and ammunition. They murdered 13 students and wounded 23 others before turning the guns on themselves. Harris and Klebold were repeatedly angered and provoked by the athletes in their school. However, they planned the massacre more than a year in advance, did research on weapons and explosives, made drawings of their plans, and conducted rehearsals. Was this an act of hostile or instrumental aggression? It is hard to say. That is why some social psychologists have argued that it is time to get rid of the distinction between hostile and instrumental aggression.

Another distinction is between displaced and direct aggression. *Displaced aggression* (also called the "kicking the dog" effect) involves substituting the target of aggression: The person has an impulse to attack one person but attacks someone else instead. *Direct aggression* involves attacking the person who provoked you. People displace aggression for several reasons. Directly aggressing against the source of provocation may be unfeasible because the source is unavailable (e.g., the provoker has left the situation) or because the

source is an intangible entity (e.g., hot temperature, loud noise, foul odor). Fear of retaliation or punishment from the provoker may also inhibit direct aggression. For example, an employee who is reprimanded by his boss may be reluctant to retaliate because he does not want to lose his job.

Violence is aggression that has extreme physical harm as its goal, such as injury or death. For example, one child intentionally pushing another off a tricycle is an act of aggression but is not an act of violence. One person intentionally hitting, kicking, shooting, or stabbing another person is an act of violence. Thus, all violent acts are aggressive acts, but not all aggressive acts are violent; only the extreme ones are.

Is Aggression Innate or Learned?

For decades, psychologists have debated whether aggression is innate or learned. Instinct theories propose that the causes of aggression are internal, whereas learning theories propose that the causes of aggression are external. Sigmund Freud argued that human motivational forces such as sex and aggression are based on instincts. In his early writings, Freud proposed the drive for sensory and sexual gratification as the primary human instinct, which he called *eros*. After witnessing the horrors of World War I, however, Freud proposed that humans also have a destructive, death instinct, which he called *thanatos*.

According to Konrad Lorenz, a Nobel Prize–winning scientist, aggressive behavior in both humans and nonhumans comes from an aggressive instinct. This aggressive instinct presumably developed during the course of evolution because it promoted survival of the human species. Because fighting is closely linked to mating, the aggressive instinct helped ensure that only the strongest individuals would pass on their genes to future generations.

Other psychologists have proposed that aggression is not an innate drive, like hunger, in search of gratification. According to Albert Bandura's social learning theory, people learn aggressive behaviors the same ways they learn other social behaviors—by direct experience and by observing others. When people observe and copy the behavior of others, this is called *modeling*. Modeling can weaken or strengthen aggressive responding. If the model is rewarded for behaving aggressively, aggressive responding is strengthened in observers. If the model is punished for behaving aggressively, aggressive responding is weakened in observers.

This nature versus nurture debate has frequently generated more heat than light. Many experts on aggression favor a middle ground in this debate. There is clearly a role for learning, and people can learn how to behave aggressively. Given the universality of aggression and some of its features (e.g., young men are always the most violent individuals), and recent findings from heritability studies, there may be an innate basis for aggression as well.

Some Factors Related to Aggression

Frustration and Other Unpleasant Events

In 1939, a group of psychologists from Yale University published a book titled *Frustration and Aggression*. In this book, they proposed the frustration–aggression hypothesis, which they summarized on the first page of their book with these two statements: (1) "The occurrence of aggressive behavior always presupposes the existence of frustration" and (2) "the existence of frustration always leads to some form of aggression." They defined frustration as blocking goal-directed behavior, such as when someone crowds in front of you while you are waiting in a long line. Although they were wrong in their use of the word *always*, there is no denying the basic truth that aggression is increased by frustration.

Fifty years later, Leonard Berkowitz modified the frustration–aggression hypothesis by proposing that all unpleasant events—instead of only frustration—deserve to be recognized as causes of aggression. Other examples of unpleasant events include hot temperatures, crowded conditions, foul odors, secondhand smoke, air pollution, loud noises, provocations, and even pain (e.g., hitting your thumb with a hammer).

All of these unpleasant environmental factors probably increase aggression because they make people feel bad and grumpy. But why should being in a bad mood increase aggression? One possible explanation is that angry people aggress because they think it will make them feel better. Because many people believe that venting is a healthy way to reduce anger and aggression, they might vent by lashing out at others to improve their mood. However, research has consistently shown that venting anger actually increases anger and aggression.

It is important to point out that like frustration, being in a bad mood is neither a necessary nor a sufficient condition for aggression. All people in a bad

mood do not behave aggressively, and all aggressive people are not in a bad mood.

Aggressive Cues

Weapons. Obviously using a weapon can increase aggression and violence, but can just seeing a weapon increase aggression? The answer is yes. Research has shown that the mere presence of a weapon increases aggression, an effect called the weapons effect.

Violent Media. Content analyses show that violence is a common theme in many types of media, including television programs, films, and video games. Children are exposed to approximately 10,000 violent crimes in the media per year. The results from hundreds of studies have shown that violent media increase aggression. The magnitude of the effect of violent media on aggression is not trivial either. The correlation between TV violence and aggression is only slightly smaller than that correlation between smoking and lung cancer. Smoking provides a useful analogy for thinking about media violence effects. Not everyone who smokes gets lung cancer, and not everyone who gets lung cancer is a smoker. Smoking is not the only factor that causes lung cancer, but it is an important factor. Similarly, not everyone who consumes violent media becomes aggressive, and not everyone who is aggressive consumes violent media. Media violence is not the only factor that causes aggression, but it is an important factor. Like the first cigarette, the first violent movie seen can make a person nauseous. After repeated exposure, however, the person craves more and more. The effects of smoking and viewing violence are cumulative. Smoking one cigarette probably will not cause lung cancer. Likewise, seeing one violent movie probably will not make a person more aggressive. But repeated exposure to both cigarettes and media violence can have harmful long-term consequences.

Chemical Influences

Numerous chemicals have been shown to influence aggression, including testosterone, cortisol, serotonin, and alcohol.

Testosterone. Testosterone is the male sex hormone. Both males and females have testosterone, but males have a lot more of it. Testosterone has been linked to aggression. Robert Sapolsky, author of *The Trouble With Testosterone,* wrote, "Remove the source of

testosterone in species after species and levels of aggression typically plummet. Reinstate normal testosterone levels afterward with injections of synthetic testosterone, and aggression returns."

Cortisol. A second hormone that is important to aggression is cortisol. Cortisol is the human stress hormone. Aggressive people have low cortisol levels, which suggests that they experience low levels of stress. How can this explain aggression? People who have low cortisol levels do not fear the negative consequences of their behavior, so they might be more likely to engage in aggressive behavior. Also, people who have low cortisol become easily bored, which might lead to sensation-seeking behavior such as aggression.

Serotonin. Another chemical influence is serotonin. In the brain, information is communicated between neurons (nerve cells) by the movement of chemicals across a small gap called the synapse. The chemical messengers are called neurotransmitters. Serotonin is one of these neurotransmitters. It has been called the "feel good" neurotransmitter. Low levels of serotonin have been linked to aggression in both animals and humans. For example, violent criminals have a serotonin deficit.

Alcohol. Alcohol has long been associated with violent and aggressive behavior. Well over half of violent crimes are committed by individuals who are intoxicated. Does all of this mean that aggression is somehow contained in alcohol? No. Alcohol increases rather than causes violent or aggressive tendencies. Factors that normally increase aggression, such as provocation, frustration, aggressive cues, and violent media, have a much stronger effect on intoxicated people than on sober people.

Self and Culture

Norms and Values. Amok is one of the few Indonesian words used in the English language. The term dates back to 1665, and describes a violent, uncontrollable frenzy. *Running amok* roughly translated means "going berserk." A young Malay man who had suffered some loss of face or other setback would run amok, recklessly performing violent acts. The Malays believed it was impossible for young men to restrain their wild, aggressive actions under those circumstances. However, when the British colonial administration disapproved of the practice and began to hold the young men responsible for their actions, including punishing them for the harm they did, most Malays stopped running amok.

The history of running amok thus reveals three important points about aggression. First, it shows the influence of culture: The violence was accepted in one culture and prohibited in others, and when the local culture changed, the practice died out. Second, it shows that cultures can promote violence without placing a positive value on it. There is no sign that the Malays approved of running amok or thought it was a good, socially desirable form of action, but positive value wasn't necessary. All that was needed was for the culture to believe that it was normal for people to lose control under some circumstances and act violently as a result. Third, it shows that when people believe their aggression is beyond control, they are often mistaken—the supposedly uncontrollable pattern of running amok died out when the British cracked down on it. The influence of culture was thus mediated through self-control.

Self-Control. In 1990, two criminologists published a book called *A General Theory of Crime.* Such a flamboyant title was bound to stir controversy. After all, there are many crimes and many causes, and so even the idea of putting forward a single theory as the main explanation was pretty bold. What would their theory feature: Poverty? Frustration? Genetics? Media violence? Bad parenting? As it turned out, their main theory boiled down to poor self-control. The authors provided plenty of data to back up their theory. For one thing, criminals seem to be impulsive individuals who simply don't show much respect for norms, rules, and standards of behavior. If self-control is a general capacity for bringing one's behavior into line with rules and standards, criminals lack it. Another sign is that the lives of criminals show low self-control even in behaviors that are not against the law (e.g., smoking cigarettes).

Social psychology has found many causes of violence, including frustration, anger or insult, alcohol intoxication, violence in the media, and hot temperatures. This raises the question of why there isn't more violence than there is. After all, who hasn't experienced frustration, anger, insult, alcohol, media violence, or hot weather in the past year? Yet most people do not hurt or kill anyone. These factors may give rise to violent impulses, but most people restrain themselves. Violence starts when self-control stops.

Culture of Honor. The southern United States has long been associated with greater levels of violent attitudes and behaviors than the northern United States. In comparison to northern states, southern states have more homicides per capita, have fewer restrictions on gun ownership, allow people to shoot assailants and burglars without retreating first, are more accepting of corporal punishment of children at home and in schools, and are more supportive of any wars involving U.S. troops.

Social psychologist Richard Nisbett hypothesized that these regional differences are caused by a southern *culture of honor,* which calls for violent response to threats to one's honor. This culture apparently dates back to the Europeans who first came to the United States. The northern United States was settled by English and Dutch farmers, whereas the southern United States was settled by Scottish and Irish herders. A thief could become rich quick by stealing another person's herd. The same was not true of agricultural crops in the North. It is difficult to quickly steal 50 acres of corn. Men had to be ready to protect their herds with a violent response. A similar culture of violence exists in the western United States, or the so-called Wild West, where a cowboy could also lose his wealth quickly by not protecting his herd. (Cowboys herded cows, hence the name.) This violent culture isn't confined to the southern and western United States; cultural anthropologists have observed that herding cultures throughout the world tend to be more violent than agricultural cultures.

Humiliation appears to be the primary cause of violence and aggression in cultures of honor. Humiliation is a state of disgrace or loss of self-respect (or of respect from others). It is closely related to the concept of shame. Research shows that feelings of shame frequently lead to violent and aggressive behavior. In cultures of honor there is nothing worse than being humiliated, and the appropriate response to humiliation is swift and intense retaliation.

Age and Aggression

Research has shown that the most aggressive human beings are toddlers, children 1 to 3 years old. Researchers observing toddlers in daycare settings have found that about 25% of the interactions involve some kind of physical aggression (e.g., one child pushes another child out of the way and takes that child's toy). High aggression rates in toddlers are most likely due to the fact that they still lack the means to communicate in more constructive ways. No adult group, not even violent youth gangs or hardened criminals, resorts to physical aggression 25% of the time.

Young children do not commit many violent crimes, especially as compared to young men. This is most likely due to the fact that young children can't do much physical damage, because they are smaller and weaker.

Longitudinal studies show that *serious* aggressive and violent behavior peaks just past the age of puberty. After the age of 19, aggressive behaviors begin to decline. However, a relatively small subgroup of people continue their aggressive behavior after adolescence. These "career criminals" typically started violent offending in early life. The earlier the onset of aggressive or violent behavior is, the greater is the likelihood that it will continue later in life.

Gender and Aggression

In all known societies, young men just past the age of puberty commit most of the violent crimes. Rarely women. Rarely older men. Rarely young children. Research shows that males are more physically aggressive than females, but this difference shrinks when people are provoked. Males are also more verbally aggressive than females, although the difference is much smaller. Females are often taught to be less direct in expressing aggression, so they often resort to more indirect forms of aggression. When it comes to relational aggression, for example, females are more aggressive than males. *Relational aggression* is defined as intentionally harming someone's relationships with others. Some examples of relational aggression include saying bad things about people behind their backs, withdrawing affection to get what you want, and excluding others from your circle of friends. Thus, rather than simply stating that males are more aggressive than females, it is more accurate to state that both sexes can behave aggressively, but they tend to engage in different types of aggression.

Biased Social Information Processing

People do not passively respond to the things happening around them, but they actively try to perceive, understand, and attach meaning to these events. For example, when someone bumps a shopping cart into your knee in the local supermarket, you will likely do more than just feel the pain and take another carton of milk from the shelf. Instead, you will try to make sense of what happened to you (often this occurs automatically and so fast that you're not even aware of it): Why did this person bump me? Was it an accident or was it intentional?

According to the social information processing model, the way people process information in a situation can have a strong influence on how they behave. In aggressive people, the processing of social information takes a different course than in nonaggressive people. For example, aggressive people have a *hostile perception bias.* They perceive social interactions as more aggressive than nonaggressive people do. Aggressive people pay too much attention to potentially hostile information and tend to overlook other types of information. They see the world as a hostile place. Aggressive people have a *hostile expectation bias.* They expect others to react to potential conflicts with aggression. Furthermore, aggressive people have a *hostile attribution bias.* They assume that others have hostile intentions. When people perceive ambiguous behaviors as stemming from hostile intentions, they are much more likely to behave aggressively than when they perceive the same behaviors as stemming from other intentions. Finally, aggressive people are more likely than others to believe that "aggression pays." In estimating the consequences of their behavior, they are overly focused on how to get what they want, and they do not focus much on maintaining good relationships with others. This is why aggressive people often choose aggressive solutions for interpersonal problems and ignore other solutions.

Intervening With Aggression and Violence

Most people are greatly concerned about the amount of aggression in society. Most likely, this is because aggression directly interferes with people's basic needs of safety and security. Accordingly, it is urgent to find ways to reduce aggression. Aggression has multiple causes. Unpleasant events, biased social information processing, violent media, and reduced self-control are just some of the factors that can increase aggression. The fact that there is no single cause for aggression makes it difficult to design effective interventions. A treatment that works for one individual may not work for another individual. One subgroup of extremely aggressive and violent people, psychopaths, is even believed to be untreatable. Indeed, many people have started to accept the fact that aggression and violence have become an inevitable, intrinsic part of society.

This being said, there certainly are things that can be done to reduce aggression and violence. Although aggression intervention strategies will not be discussed in detail here, there are two important general points to be made. First, successful interventions target as many

causes of aggression as possible and attempt to tackle them collectively. Most often, these interventions are aimed at reducing factors that promote aggression in the direct social environment (family, friends), general living conditions (housing and neighborhood, health, financial resources), and occupation (school, work, spare time). Common interventions include social competence training, family therapy, parent management training (in children and juveniles), or a combination of these. Interventions that are narrowly focused at removing a single cause of aggression, however well conducted, are bound to fail.

Aggression is often stable over time, almost as stable as intelligence. If young children display excessive levels of aggression (often in the form of hitting, biting, or kicking), it places them at high risk for becoming violent adolescents and even violent adults. It is much more difficult to alter aggressive behaviors when they are part of an adult personality than when they are still in development. Thus, as a second general rule, it is emphasized that aggressive behavior problems are best treated in early development, when they are still malleable. The more able professionals are to identify and treat early signs of aggression, the safer our communities will be.

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See also Catharsis of Aggression; Media Violence and Aggression

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AGREEABLENESS

Definition

Agreeableness is one of the five major dimensions of personality within the five-factor, structural approach to personality (also known as the Big Five). It is an abstract, higher-level summary term for a set of family relations among lower-level traits that describe individual differences in being likable, pleasant, and harmonious in interactions with others. Research shows that persons who are "kind" are also "considerate" and "warm," implicating a larger, overarching dimension that is relatively stable over time and related to a wide range of thoughts, feelings, and social behaviors. Of the five major dimensions of personality in the Big Five, Agreeableness is most concerned with how individuals differ in their orientations toward interpersonal relationships.

Background

Agreeableness has a curious history, relative to many other recognized dimensions of personality. Unlike the supertraits of Extraversion and Neuroticism, Agreeableness was not widely researched because of top-down theorizing about its link to biology or to especially conspicuous social behaviors. Instead, systematic research on Agreeableness began as a result of reliable research findings arising in descriptions of the self and of others. Because of its bottom-up empirical origins, there is room for debate about a suitable label for this hypothetical construct. Not all theorists concur that Agreeableness is the best summary label for the interrelated lower-level traits, habits, and dispositions. Other labels used to describe the dimension are tendermindedness, friendly compliance versus hostile noncompliance, likeability, communion, and even love versus hate. To avoid problems of overlap with everyday meanings, some theorists proposed that the dimensions be given a number (the Roman numeral II has been used in the past) or a letter A (for agreeableness, altruism, or affection). Whatever the label picked, the empirical regularities with attraction, helping, and positive relations remain.

Relations to Other Personality Traits
Big Five

As for the Big Five dimensions, one might intuitively expect Agreeableness to be related to Extraversion because both are concerned with social relations. Indeed some theorists have tried to force Agreeableness-related traits to fit under the Extraversion umbrella, placing traits like "warm" with Extraversion, not Agreeableness. Empirically, however, the two major dimensions are related to different social behaviors. Extraversion is linked to the excitement aspects of social relations and to dominance, whereas Agreeableness is related to motives for maintaining harmonious relationships with others. Extraversion is about having impact on others,

whereas Agreeableness is about having harmony and pleasant relationships. Overall, empirical research suggests that Agreeableness is distinctive and is not highly correlated with the other dimensions of the Big Five, at least in young adults.

Empathy

Agreeableness may not be highly correlated with other Big Five dimensions of personality, but it is probably related to other traits, habits, and attitudes. Intuitively, one might expect empathy to be one component of Agreeableness. Studies show that Agreeableness is related to dispositional empathy. Persons high in Agreeableness report greater ease in seeing the world through others' eyes (perspective taking), in feeling the suffering of others (empathic concern), but not necessarily in experiencing self-focused negative emotions (personal distress) or in observing victims in sorrow. Past research showed that these cognitive and emotional processes are related to overt helping, so one might expect persons high in Agreeableness to offer more help and aid to others, even to strangers, than do their peers. Recent empirical research supports the claim that Agreeableness is related to both empathy and helping.

Frustration Control

Moving further away from intuition toward theory, Agreeableness seems to be related to frustration control. Because of their motivation to maintain good relations with others, persons high in Agreeableness are more willing or better able to regulate the inevitable frustrations that come from interacting with others. Theorists proposed that Agreeableness (along with its conceptual cousin Conscientiousness) may have its developmental origins in an early-appearing temperament called *effortful control.*

Relation to Social Behaviors

Agreeableness can also be understood by examining social behaviors that are related to it. Overall, Agreeableness seems to be positively related to adaptive social behaviors (i.e., conflict resolution, emotional responsiveness, helping behavior) and negatively related to maladaptive social behaviors (i.e., prejudice, stigmatization).

Emotional Responsiveness

Agreeableness is a major predictor of emotional experience and expression. Research using both self-report and objective physiological measures shows that high-agreeable people are more responsive in emotionally evocative situations than low-agreeable people. High-agreeable adults and children report greater efforts to control their emotional reactions in social situations, especially when asked to describe emotional content to a friend or stranger. Recent research shows that Agreeableness is related to emotional responsiveness in situations involving people in relationships but not necessarily excitement or danger. In sum, Agreeableness seems to be related to patterns of controlled emotional responsiveness to interpersonal situations.

Group Behavior

In studies of group processes, research shows that Agreeableness is related to lower within-group conflict and higher overall group evaluations. More specifically, high-agreeable people are more liked by their group members and report more liking for the other members of their group. Research has also shown that Agreeableness is negatively related to competitiveness in groups and positively related to expectations of group interactions. High-agreeable people expect to enjoy the group interaction more than their low-agreeable counterparts. Agreeableness also predicts the type of conflict resolution tactics people use. For instance, Agreeableness is positively related to constructive conflict resolution tactics (e.g., negotiation) and negatively related to destructive resolution tactics (e.g., physical force).

Helping

Research shows that Agreeableness is related to prosocial behaviors, such as helping. High-agreeable people offer help across a range of situational contexts. Low-agreeable people, however, seem to be much more influenced by situational variations, such as victim's group membership, cost of helping, and experimentally induced empathy. Low-agreeable people are more likely to offer help when the victim is a member of one's own group or costs of helping are low. High-agreeable people also report greater feelings of liking and similarity toward the victim. Agreeableness is also related to two of the major dimensions of prosocial emotions, namely empathic concern and personal distress. Agreeableness is the only dimension of the Big Five approach to personality to predict both empathic concern and personal distress. Overall, Agreeableness seems to predict dispositional prosocial motives to help.

Prejudice

So far, research on Agreeableness and prejudice has focused on one type of prejudice, antifat bias. Research shows that low-agreeable people exhibit more prejudice toward overweight women than their high-agreeable counterparts. Not only do people low in Agreeableness exhibit more dislike for an overweight interaction partner, but when given the opportunity to switch from an overweight to an average weight interaction partner, low-agreeable people switch more often than do high-agreeable people. Agreeableness predicts other forms of prejudice as well. Agreeableness is negatively related to prejudice against a wide range of both positive (i.e., handicapped) and negative (i.e., rapists) social groups, and positively related to efforts to suppress such prejudice. To examine this idea of suppression, people were brought into the lab and put under cognitive load when making decisions about liking for these groups. Results indicate that when looking at the groups rated most negatively by everyone (e.g., rapists, child molesters) suppression has no effect on either high- or low-agreeable raters. When looking at groups that are common targets of prejudice (e.g., African Americans, Hispanics, gays), suppression is linked to lower prejudice in high-agreeable persons. Apparently, those high in Agreeableness suppress their prejudices at least for certain groups.

Implications and Future Directions

Agreeableness is a summary term for individual differences in liking and attraction toward others. Persons high in Agreeableness differ systematically from their peers in emotional responsiveness, empathic responding, in reports of feeling connected and similar to others, and in efforts to maintain positive relations with others. Low levels of Agreeableness are associated with psychopathology, such as antisocial personality and narcissism, and with other failures to regulate emotion and social responses to others.

So far, Agreeableness has been primarily a descriptive term for behavioral differences. Recently, researchers have begun probing processes that might underlie the behavior differences. This focus on process will help uncover other differences linked to this major dimension of personality.

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See also Attraction; Empathy; Extraversion; Personality and Social Behavior; Prosocial Behavior

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ALCOHOL MYOPIA EFFECT

Definition

Alcohol myopia theory states that alcohol intoxication (getting drunk) decreases the amount of information that individuals can process. Consequently, when people are intoxicated, the *range* of information that they can pay attention to is restricted, such that intoxicated people are able to pay attention to only *some* of the information that could be registered by a sober person. In addition, their ability to fully analyze the information that they have registered is impaired.

Background and History

When asked about the effect of alcohol consumption on behavior, most people can probably tell a story or two about a friend who did something really silly or zany after drinking. On a more serious note, you have probably also heard about instances where alcohol intoxication was associated with dangerous behaviors, such as drunk driving, violence, or unprotected sex. It is generally believed that alcohol affects behavior through a process of disinhibition, in that intoxicated people let go of common sense and do things that they are normally unwilling to do. Psychological research, however, suggests that disinhibition alone is an insufficient explanation for the effects of alcohol on behavior. Claude Steele and his colleagues have put forth alcohol myopia theory, which is an alternative theory to explain the effects of alcohol on behavior.

Importance and Consequences

Alcohol myopia theory explains why alcohol consumption can sometimes lead to unexpected behaviors or moods. For example, sometimes a person might become "the life of the party" after drinking alcohol, yet in another circumstance, that person might become quiet and withdrawn after consuming alcohol. According to alcohol myopia theory, the effect that alcohol will have on a person is determined by the pieces of information, or *cues,* that are most obvious to the drinker. Because the drinker can attend to only a small subset of information, the cues that are more prominent will have the greatest influence on mood and behavior. Cues that might influence mood and behavior range from external factors (things that are in the person's immediate environment) to internal factors (things that the person experiences internally, such as thoughts and feelings). For example, an intoxicated individual who listens to upbeat music might experience an elevation in mood, whereas an intoxicated individual who watches a sad movie is likely to feel sad. Furthermore, when someone is in a good mood and thinking about happy things, alcohol consumption may lead to an elevated mood because the individual attends primarily to these positive thoughts. By the same logic, someone who is down in the dumps and experiencing negative thoughts would be prone to an increase in sadness after becoming intoxicated.

Alcohol myopia theory also provides an explanation for why people are often more likely to engage in risky, dangerous behaviors after drinking, such as unprotected sex (even when they know the potential costs of these behaviors). Intoxicated people do not have the ability to pay attention to both the risks associated with the behavior (*inhibiting* cues) and the benefits of the behavior (*impelling* cues). Because the immediate benefits of the behavior (e.g., gratification of sexual arousal) are often the most attention-grabbing cues, intoxicated people are most likely to focus on these, at the expense of taking risk factors into account (e.g., potentially contracting an STD or causing a pregnancy).

For example, in a study by MacDonald and colleagues, sober and intoxicated university students were recruited from a local bar. As they entered the bar, students received a hand stamp. On some nights, the hand stamp said, "AIDS kills." This stamp was intended to be a salient cue reminding people of one of the major risks involved in having unprotected sex (contracting an STD). On other nights, students were given neutral, innocuous hand stamps (a smiley face). The results of this study might surprise you. For participants with the neutral hand stamp, intoxicated participants were more likely than the sober participants to say they would have unprotected sex. In contrast (and here is the surprising part), among those with the "AIDS kills" hand stamp, intoxicated participants were actually *less* likely than sober participants to say they would have unprotected sex. This result is very counterintuitive to most people, but it makes sense in the context of alcohol myopia theory. Presumably, the sober participants were able to take both the impelling cues (such as sexual arousal) and the inhibiting cues (such as risk of STDs), into account when making their decision. As a result, introducing the "AIDS kills" hand stamp did little to influence their decision because they were already considering the full range of relevant information. The intoxicated participants, on the other hand, were only capable of focusing on one set of cues. When they had a neutral hand stamp, the impelling cues were more attention-grabbing, which made them more open to the idea of having sex even though a condom was not available. However, when the "AIDS kills" hand stamp (a prominent inhibiting cue) was introduced, they became myopically focused on this inhibiting information to the exclusion of the impelling cues.

Therefore, alcohol myopia theory predicts that alcohol intoxication may make people behave in either a riskier, or more cautious, manner—depending on the cues that are noticeable. When the benefits of a risky behavior are very prominent, alcohol should be associated with riskier behavior. In contrast, when the costs of a risky behavior are very prominent, alcohol should be associated with safer behavior. Knowledge of alcohol myopia can be used to help social psychologists design interventions that will be effective in helping to curb some of the dangerous behaviors that tend to be associated with alcohol consumption.

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See also Accessibility; Risk Appraisal; Risk Taking; Self-Regulation

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ALTRUISM

Definition

Altruism refers to a motive for helping behavior that is primarily intended to relieve another person's distress, with little or no regard for the helper's self-interest. Altruistic help is voluntary, deliberate, and motivated by concern for another person's welfare. When help is given for altruistic reasons, the helper does not expect repayment, reciprocity, gratitude, recognition, or any other benefits.

Background and History

Questions about the nature and importance of altruism have a long history in moral philosophy. For example, the biblical parable of the Good Samaritan, who ministered to a traveler's wounds at personal cost while expecting nothing in return, has become synonymous with the idea of selfless giving. Among social psychologists, interest in altruism grew in response to early studies of helping behavior. Those studies tended to focus on the act of helping itself, that is, whether or not one person gave help to another person. As researchers sought to identify the motives responsible for acts of helping, it became apparent that two major classes of motives could underlie helping: egoistic and altruistic. Egoistic motives are concerned chiefly with benefits the helper anticipates receiving. These might be material (repayment, the obligation for future favors in return), social (appreciation from the recipient, public recognition), or even personal (the gratifying feeling of pride for one's actions). Altruistic motives, on the other hand, focus directly on the recipient's need for assistance and involve sympathy and compassion for the recipient.

A key debate has contrasted altruistic motivation with one particular type of egoistic motive, sometimes called distress reduction. Witnessing another person's distress can be profoundly upsetting, and if the helpful act is motivated first and foremost by the desire to relieve one's own upset feelings, the act would be seen as more egoistic than altruistic. The difference is that whereas altruistic helping focuses on the recipient's need ("You were suffering and I wanted to help"), egoistic helping focuses on the helper's feelings ("I was so upset to see your situation").

The distinction between egoistic and altruistic motives for helping behavior has sometimes been controversial. One reason is that altruistic explanations do not lend themselves to the kinds of reward–cost theories that dominated the psychological analysis of motivation during the mid-20th century. These theories argued in essence that behavior occurs only when it maximizes the actor's rewards while minimizing his or her costs, a framework that does not facilitate altruistic interpretations of helping. Nevertheless, it is clear that acts of helping often involve great personal cost with little or no reward; one need only consider the behavior of individuals who rescued Jews from Nazi persecution or Tutsis from the Rwandan massacre to realize that helping often does take place for altruistic reasons.

Social psychologist Daniel Batson was instrumental in introducing methods for studying helping that is altruistically motivated. One such method involves using experimental variations to differentially emphasize either the need of the recipient or the opportunity to fulfill more egoistic motives. Increases in helping from one condition to the other can then be attributed to whichever motive has been strengthened. Another method involves sophisticated techniques that help identify what people were thinking about as they considered helping. In both cases, research has shown unequivocally that altruistic motives often play an important role in helping behavior. This sort of helping is sometimes called *true altruism* or *genuine altruism,* tacit acknowledgment that some forms of helping behavior are more egoistic in nature. Although from the perspective of the needy recipient, it may not matter whether a given act is motivated by egoistic or altruistic concerns, from a scientific standpoint, the difference is substantial.

Factors That Contribute to Altruistic Helping

The factors that contribute to altruistic helping may be grouped into two broad categories: those that describe the individual who helps and those that are more contextual in nature. Concerning the former, research has shown that people who are more likely to provide altruistically motivated help tend to have strong humanitarian values and feel a relatively great sense of

responsibility for the welfare of others. They also tend to be more empathic and caring about others than are more egoistically oriented helpers. In one interesting line of research, Mario Mikulincer, Phillip Shaver, and their colleagues have shown that people with a secure attachment style—that is, people who feel secure and trusting in their relationships with their closest care-givers (parents, romantic partners, and others)—tend to have more altruistic motives in a variety of helping contexts, including volunteerism (e.g., charity work). Insecure attachment styles, on the other hand, either discourage helping or foster more egoistic motives for helping.

Among the contextual factors that influence altruism, characteristics of the relationship between helper and recipient are very important. Empathy is strongly related to altruistic helping, in two ways: Empathy involves taking the perspective of the other, and empathy fosters compassionate caring. Both are more likely in close, personal relationships, and because people typically care about the welfare of their close friends, both tend to increase the likelihood of altruistically motivated helping.

Identifying with the other person is another contextual factor thought to increase the likelihood of altruism. This sense of connection with the other appears to be particularly important for explaining altruistic helping to kin and in group contexts. The former refers to the well-documented fact that the probability of an altruistic act is greater to the extent that the recipient shares the helper's genes; for example, people are more likely to help their children than their nieces and nephews but are more likely to help the latter than their distant relatives or strangers. As for the latter, altruistic helping is more common with members of one's ingroups (the social groups to which one feels that he or she belongs) than with outsiders to those groups. Many examples of personal sacrifice during wartime can be understood as ingroup altruism.

Other studies have shown that when the potential helper's sense of empathy is aroused, altruistically based helping tends to increase. This can be done, for example, by asking research participants to imagine how the other person feels in this situation, as opposed to staying objective and detached. This kind of research is particularly useful for researchers seeking ways to increase altruistic helping in the modern world. It suggests that awareness of the needs of others, combined with some desire to assist them, may be effective.

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See also *Empathy; Empathy–Altruism Hypothesis; Helping Behavior; Prosocial Behavior*

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ALTRUISTIC PUNISHMENT

Definition

An act is altruistic if it is costly for the acting individual and beneficial for someone else. Thus, punishment is altruistic if it is costly for the punisher and if the punished person's behavior changes such that others benefit. This definition does not require an altruistic motivation.

Example

Think of queuing as an instructive example. Telling a queue jumper to stand in line is probably (psychologically) costly for the person confronting the queue jumper. If the queue jumper gets back into line, all people who were put at a disadvantage by the queue jumper benefit.

Evidence

Scientific evidence for altruistic punishment comes from laboratory "public goods" experiments. In a typical public goods experiment, participants are randomly allocated to groups of four players. Each player is endowed with money units and has to decide how many to keep for him- or herself and how many to invest into a "the public good." The experimenter doubles the sum invested into the public good and distributes the doubled sum equally among the four group members. Thus, every group member receives a quarter of the doubled sum, irrespective of his or her contribution. This experiment describes a cooperation problem: If everyone invests into the public good, the group is better off collectively; yet free riding makes everyone better off individually.

The experiments are conducted anonymously, and participants get paid according to their decisions. The public goods game is conducted several times but with new group members in each repetition. To

contribute under such circumstances is altruistic: Contributing is costly, and all other group members benefit. The typical result is that people initially invest into the public good, but altruistic cooperation eventually collapses.

Now consider the following treatment: After participants make their contribution, they learn how much others contributed. Participants then have the possibility to punish the other group members. Punishment is costly: The punishing individual has to pay one money unit, and the punished individual loses three money units. A money-maximizing individual will never punish, because punishment is costly and there are no further interactions with the punished individual. Yet, numerous experiments have shown that many people nevertheless punish and free riding becomes rare. Thus, punishment is altruistic because people incur costs to punish irrespective of no future interactions with the punished individual and because the future partners of the punished free rider benefit from the free rider's cooperation.

Theoretical Relevance

Evolutionary and economic theories can explain cooperation by selfish individuals if the benefits of cooperating exceed the costs. Kinship, repeated interactions with the same individuals and reputation formation are channels through which benefits might exceed costs. From the viewpoint of these theories, altruistic punishment is a puzzle, because none of these channels was possible in the experiments and because the costs of punishing outweigh the benefits for the punishing individual.

Simon Gächter

See also Altruism; Empathy–Altruism Hypothesis; Reciprocal Altruism

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AMBIVALENCE

Definition

People like some things yet dislike others, love some people but hate others, and sometimes feel happy and other times sad. From this perspective, feelings— generally referred to as affect, which includes such phenomena as attitudes, emotions, and moods—work in much the same way as temperature. Just as temperature falls along a simple dimension ranging from hot to cold, so, too, does affect fall along a simple dimension ranging from positive to negative.

A closer look, however, reveals that affect may be more complex than it first appears. Consider your attitude toward ice cream. You may like ice cream because it tastes good but also dislike ice cream because that great taste comes at the expense of vast amounts of fat, sugar, and calories. If so, you would have what social psychologists call an *ambivalent* attitude toward ice cream. That is, you feel good *and* bad about it, rather than simply good *or* bad. Many people are ambivalent not only about unhealthy foods but about broccoli and other healthy foods as well. Similarly, many people are ambivalent about such unhealthy behaviors as smoking, as well as such healthy behaviors as exercising. As people who describe themselves as having love/hate relationships know, other people can also be a common source of ambivalence. For instance, many people are ambivalent about U.S. presidents Bill Clinton or George W. Bush. Perhaps people feel ambivalent about politicians because they feel ambivalent about the social issues that politicians debate. In addition to disagreeing with each over such troubling issues as legalized abortion, capital punishment, and civil rights, people often disagree with themselves.

Such instances of ambivalence suggest that the analogy between temperature and affect can be taken only so far. It is impossible for liquids to freeze and boil at the same time, but it appears that people can feel both good and bad about the same object. According to John Cacioppo and Gary Berntson's evaluative space model, one implication is that it is better to think of positive and negative affect as separate dimensions rather than opposite ends of a single dimension ranging from positive to negative. From this perspective, people can feel any pattern of positive and negative affect at the same time, including high levels of both.

Attitudinal Ambivalence

Contemporary interest in ambivalence stems from social psychologists' enduring efforts to understand the nature of attitudes, which refer to people's opinions of people, ideas, and things. Social psychologists have long measured attitudes by asking people to indicate how they feel about attitude objects (e.g., ice cream)

on scales with options ranging from extremely good to extremely bad. In his chapter on attitude measurement in the 1968 *Handbook of Social Psychology,* William Scott pointed out that responses in the middle of bipolar attitude scales are difficult to interpret. Though typically assumed to reflect the absence of positive or negative feeling (i.e., indifference), Scott pointed out that such responses may in fact reflect ambivalence, or the presence of *both* positive *and* negative affect.

Ambivalence Toward Social Categories

Research has revealed that stereotypes and attitudes toward racial groups and other social categories are often ambivalent. For instance, many White Americans have ambivalent attitudes toward African Americans. These ambivalent racists sympathize with Blacks for having been denied the opportunities afforded to other Americans, but also disparage Blacks because they perceive Blacks as having failed to uphold the Protestant work ethic. Peter Glick and Susan Fiske have explored men's ambivalent sexism, which is illustrated by the saying, "Women—you can't live with 'em and you can't live without 'em." Benevolent sexism involves a sort of protective paternalism in which men see it as their duty to care for women. In contrast, hostile sexism involves dominative paternalism in which men oppose women's entry into male-dominated professions and criticize bold, assertive women even though they praise bold, assertive men. More recently, Glick and Fiske have demonstrated that stereotypes about social groups generally represent a tradeoff between perceptions of warmth and competence. Whereas homemakers are seen as nurturing but incompetent, for instance, wealthy individuals are seen as hardworking but cold.

Measuring Ambivalence

In the early 1970s, Martin Kaplan had the insight to distinguish ambivalent attitudes from indifferent attitudes by modifying traditional one-dimensional, bipolar attitude scales. Rather than asking people to rate how good or bad they felt about attitude objects, Kaplan asked them to rate how good *and* bad they felt about the attitude object on two *separate* scales. Kaplan quantified the amount of ambivalence as the smaller of the two ratings. In his formula, individuals who feel exclusively positive (positive = 5, negative = 0), exclusively negative (0, 5), or indifferent (0, 0) about some attitude object experience no ambivalence. On the other hand, people who have some combination of positive and negative feelings experience some level of ambivalence depending on the exact combination of those positive and negative ratings. For instance, if two individuals feel extremely positive, but one feels moderately negative (5, 3) and the other only slightly negative (5, 1), the first is quantified as having more ambivalence.

The Feeling of Ambivalence

Having ambivalent reactions toward the same thing often leaves people feeling torn between the two. Indeed, subsequent researchers found that ambivalence as measured by Kaplan's formula is correlated with ratings of tension, conflict, and other unpleasant emotions. Interestingly, however, the correlations tend to be relatively weak. Thus, having both positive and negative reactions does not necessarily result in feelings of conflict. Research has revealed a number of reasons for the weak correlation. One reason is that feelings of conflict are not only the result of ambivalent positive and negative reactions. Specifically, people sometimes feel conflicted, even though they do not have ambivalent positive and negative reactions, because they hold attitudes that are at odds with those of people important to them. For instance, students who greatly oppose studying (and are not in favor of it all) may nonetheless feel conflicted if their parents like them to study. Thus, ambivalence is not only an intrapersonal phenomenon (i.e., one that happens within a single person) but an interpersonal phenomenon (i.e., one that happens between people) as well. Another reason for the weak correlation is that people's ambivalent positive and negative reactions toward an attitude object only produce feelings of conflict when the mixed reactions come to mind readily, which is not always the case.

The Role of Personality

There are also stable individual differences or personality characteristics that play a role in attitudinal ambivalence. In fact, a third reason for the low correlation between having ambivalent positive and negative reactions and experiencing conflict deals with the fact that some people have a weaker desire for consistency than others. As it turns out, Megan Thompson and Mark Zanna have demonstrated that these people are not particularly bothered about feeling both good and bad about the same thing. Perhaps that explains

why these individuals tend to be more likely to have ambivalent attitudes toward a variety of social issues, including state-funded abortion, euthanasia (i.e., "mercy killing"), and capital punishment. In addition, people who enjoy thinking tend to have less-ambivalent attitudes, presumably because they manage to sift through and ultimately make sense of conflicting evidence for and against different positions on complex issues.

Consequences of Attitudinal Ambivalence

Ambivalence has a variety of effects on how attitudes operate. Attitudes are important to social psychology, in large part because they help predict behavior. If social psychologists know that someone has a negative attitude toward capital punishment, for instance, they can predict with some certainty that the person will vote to ban capital punishment if given the opportunity. Compared to other attitudes, however, ambivalent attitudes do not predict behavior very well. In addition, ambivalent attitudes are less stable over time than other attitudes. Thus, if asked about their attitude toward capital punishment one month and again the next, people who are ambivalent toward capital punishment will be less likely than others to report the same attitude.

Ambivalence also affects how much people change their minds in the face of advertisements and other persuasive appeals, messages designed by one person or group of people to change other people's attitudes. For instance, Gregory Maio and colleagues found that when people are presented with a persuasive message dealing with issues that they are ambivalent about, they pay especially close attention to whether the message makes a compelling case or not. Thus, they tend to be more persuaded by strong arguments than are people with nonambivalent attitudes but also less persuaded by weak arguments. One explanation for this finding is that people with ambivalent attitudes scrutinize persuasive messages more carefully in hopes that the message will contain new information that will help them resolve their ambivalence. It appears that people with ambivalent attitudes are also more likely to change their attitudes to bring them into line with their peers' attitudes. The picture that has emerged is that when people feel ambivalent, they will do whatever it takes to make up their minds, whether that involves the hard work of paying close attention to persuasive messages or the easier work of looking to their peers for guidance.

Mixed Emotions

Contemporary work on attitudinal ambivalence has recently prompted research on emotional ambivalence. Whereas attitudes represent affective reactions to some object, such as capital punishment or a political figure, emotions represent one's own current affective state.

Most individuals at least occasionally experience such positive emotions as happiness, excitement, and relaxation and such negative emotions as sadness, anger, and fear, just to name a few. Research on attitudinal ambivalence makes clears that sometimes people can feel both good and bad about the same object, but this does not mean that people can experience such seemingly opposite emotions as happiness and sadness at the same time. Indeed, one prominent model of emotion contends that happiness and sadness are mutually exclusive. In contrast, John Cacioppo and Gary Berntson's evaluative space model contends that people can sometimes experience mixed emotions.

The Historical Debate

This disagreement represents the latest chapter in a long debate over the existence of mixed emotions. Socrates suggested that, for instance, tragic plays elicit mixed emotions by evoking pleasure in the midst of tears. Centuries later, David Hume argued for mixed emotions, but the Scottish philosopher Alexander Bain argued against mixed emotions. In the first two decades of the 20th century, students of Wilhelm Wundt, Hermann Ebbinghaus, and other pioneering psychologists conducted more than a dozen experiments in hopes of gathering data that would answer the question of mixed emotions. In an illustrative study, observers described how they felt after viewing pairs of pleasant and unpleasant photographs that alternated more than 100 times per minute. Nevertheless, researchers were unable to agree on how to interpret observers' descriptions of their feelings. As a result, this early literature has largely been forgotten.

Contemporary Evidence for Mixed Emotions

Thanks in part to the development of more valid measures of emotion, researchers have recently been able to reopen the question of mixed emotions. The question is far from settled, but recent evidence suggests that people can feel both happy and sad at the

same time. In a study conducted by Jeff Larsen and colleagues, moviegoers reported whether they felt happy, sad, and a variety of other emotions before or after seeing the tragicomic 1998 Italian film *Life Is Beautiful,* which depicts a father's attempts to keep his son alive and unaware of their plight during their imprisonment in a World War II concentration camp. Before the movie, nearly everyone felt happy or sad, not both. After the film, however, half the people surveyed felt both happy and sad. In similar studies, college students were more likely to feel both happy and sad immediately after graduating or turning in the key to their dormitories than during typical days on campus.

In other research, people played a variety of computerized card games in which they had the opportunity to win one of two amounts of money, such as $12 or $5. Winning $12 instead of $5 led people to feel good and not at all bad. Winning $5 instead of $12, however, led people to feel both good and bad. These outcomes can be seen as *disappointing wins:* Winning $5 feels good, but it also feels disappointing if there was an opportunity to win even more.

Mixed Emotions in Children

Developmental psychologists have studied the development of children's understanding of mixed emotions. In one study, children listened to a story about a child who had received a new kitten to replace one that had run away. During a subsequent interview, 4- and 5-year-olds rejected the notion that the child would feel both happy and sad about getting the new kitten. Older children, however, thought the child would feel mixed emotions. In a similar study, children were interviewed about their emotions after viewing a clip from the animated film *The Little Mermaid* in which a mermaid must say goodbye to her father forever after marrying a human. Older children were more likely to feel mixed emotions of happiness and sadness than were younger children. Taken together, the results of these studies suggest that both the understanding and experience of mixed emotions represent developmental milestones.

Consequences of Mixed Emotions

Little research to date has examined the consequences of mixed emotions. One notable exception is evidence that European Americans find advertisements that evoke mixed emotions more unpleasant than do Asian Americans, who tend to have a greater propensity for dealing with contradictory information. As a result, the advertisements were also less persuasive for European Americans than Asian Americans. Among European Americans, younger individuals find mixed emotional advertisements more unpleasant than older individuals, suggesting that the effects of age on mixed emotions, demonstrated by developmental psychologists, extend far beyond childhood.

Conclusion

People probably feel good or bad about most things and happy or sad most of the time. Indeed, it appears that ambivalence is a relatively uncommon phenomenon. It is nonetheless a particularly intriguing phenomenon because it gives us a unique glimpse into how affect works. It may appear that feelings fall along a simple dimension ranging from good to bad, but the evidence for ambivalence suggests that positive and negative affect are, in fact, separate processes that can be experienced at the same time.

Jeff T. Larsen

See also Approach–Avoidance Conflict; Attitude–Behavior Consistency; Attitude Change; Attitudes; Attitude Strength; Dual Attitudes; Emotion; Prejudice

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ANCHORING AND ADJUSTMENT HEURISTIC

Definition

Life requires people to estimate uncertain quantities. How long will it take to complete a term paper? How high will mortgage rates be in five years? What is the probability of a soldier dying in a military intervention overseas? There are many ways to try to answer such questions. One of the most common is to start with a value that seems to be in the right ballpark and then adjust it until a satisfactory estimate is obtained. "My last paper took a week to write, but this one is more demanding so maybe two weeks is a good guess." "Mortgage rates are low by historic levels, so perhaps they'll be a couple of points higher in five years." "The fatality rate in the last war was 1.5%, but our enemies are catching up technologically; maybe 4% is a more likely figure in the next conflict."

Estimates such as these are based on what psychologists call the anchoring and adjustment heuristic. You start with an initial anchor value and then adjust until an acceptable answer is found. The choice of the term *anchor* for the starting value speaks to one of the most interesting features of this procedure: People typically fail to adjust sufficiently. That is, the initial value exerts some "drag" on the final estimate, systematically biasing the result.

Amos Tversky and Daniel Kahneman, who brought the anchoring and adjustment heuristic to psychologists' attention, provided a clear demonstration of the insufficiency of adjustment. They spun a "wheel of fortune" and asked participants if certain quantities were higher or lower than the number on which the wheel landed. The participants were then asked to estimate the precise value of the quantity in question. For example, some participants were asked whether the percentage of African countries in the United Nations is higher or lower than 10%. Their subsequent average

estimate of the actual percentage was 25%. Other participants were initially asked whether the percentage of African countries in the United Nations is higher or lower than 65%. Their average subsequent estimate was 45%. Thus, the initial anchor value, even when its arbitrary nature was quite apparent, had a pronounced effect on final judgments.

In another telling demonstration, Tversky and Kahneman asked people to tell them within five seconds the product of either $1 \times 2 \times 3 \times 4 \times 5 \times 6 \times 7 \times 8$ or $8 \times 7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1$. Because the allotted time was too short to permit an exact calculation, respondents had to estimate. The first group did so by extrapolating from a relatively low number ("one times two is two, two times three is six . . . so it's probably about . . ."). The second group started from a larger number ("eight times seven is fifty-six . . . so . . ."). Because the two groups of respondents started with different anchor values, they came up with predictably different estimates. The average estimate of the first group was 512, whereas the average estimate of the second group was 2,250. If initial anchor values did not bias final estimates, the average estimates of the two groups would have been the same. Clearly, they were not. Note that the actual answer is 40,320, which shows even more powerfully that both groups adjusted insufficiently.

The anchoring and adjustment heuristic is of great interest to psychologists because it helps to explain a wide variety of different psychological phenomena. For example, people's estimates of what other people are thinking are often egocentrically biased (i.e., people assume that others think more similarly to how they themselves think than is actually the case) because they tend to start with their own thoughts and then adjust (insufficiently) for another person's perspective. People suffer from a hindsight bias, thinking that past outcomes were more predictable at the time than they really were, because they anchor on current knowledge and then adjust (insufficiently) for the fact that certain things that are known now were not known back then. Also, people tend to assume that they will do better than others on easy tasks because they start with an assumption that they will do well themselves and then adjust (insufficiently) for the fact that other people are also likely to do well on such easy tasks.

Beyond its importance to psychologists, the anchoring and adjustment heuristic has important implications for all of us in our daily lives. We must all be alert to the influence that arbitrary starting values can have on our estimates, and we must guard against individuals

who might try to sway our judgments by introducing starting values that serve their interests, not ours. It has been shown, for example, that an opening proposal in a negotiation often exerts undue influence on the final settlement, and so we may want to pay considerable attention to how the opening proposals are made and who makes them. It has also been shown that the items we buy in the grocery store are powerfully affected by the anchor values that are put in our heads by advertisers. In one study, for example, an end-of-the-aisle promotional sign stated either "Snickers Bars: Buy 18 for your Freezer" or "Snickers Bars: Buy them for your Freezer." Customers bought 38% more when the advertisers put the number 18 in customers' heads. Buyer beware.

Thomas Gilovich

See also Behavioral Economics; Door-in-the-Face Technique; Heuristic Processing; Hindsight Bias; Persuasion

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ANDROGYNY

Definition

The term *androgyny* is derived from the Greek *andro* (man) and *gyne* (woman). The popular conception of androgyny is a blend of male and female characteristics or a person who is neither male nor female. Psychological androgyny refers to men and women who exhibit both masculine and feminine attributes.

Background and History

Psychologists have measured masculinity and femininity, along with other important personality traits, since the early 20th century. These early tests were developed by identifying items that reflected differences in men's and women's responses. For example, the masculinity–femininity scale of the original Minnesota Multiphasic Personality Inventory included items that male participants endorsed as being descriptive of their personality attributes. At that time, psychologists shared the Western cultural assumption that mentally healthy men were masculine and mentally healthy women were feminine. Therefore, it was expected that male participants would have higher masculinity scores than would female participants.

These early tests measured masculinity–femininity as a single dimension, with masculinity at one end of a continuum and femininity at the other end of the continuum. Therefore, the higher participants would score on masculinity, the lower they would score on femininity. Likewise, the higher participants would score on femininity, the lower they would score on masculinity. It was impossible to score high on both masculinity and femininity.

In the 1970s, many psychologists criticized these traditional tests. This criticism paralleled a shift in Western cultural assumptions about men, women, and traditional sex role socialization. During that time, Sandra Lipsitz Bem designed a new psychological test, the Bem Sex Role Inventory (BSRI). The BSRI was designed to address some of the criticisms of the traditional masculinity–femininity tests. Instead of items selected on the basis of sex differences in participants' responses, the BSRI contains items that male and female participants rated as desirable for American men and women. The masculinity scale consists of items that were rated as slightly more socially desirable for men (e.g., aggressive and ambitious). The femininity scale consists of items that were rated as slightly more socially desirable for women (e.g., affectionate and cheerful). Moreover, the BSRI assesses masculinity and femininity as independent, separate dimensions. Male and female participants can score high on masculinity and low on femininity (traditional masculinity), low on masculinity and high on femininity (traditional femininity), high on both masculinity and on femininity (androgynous), and low on both masculinity and femininity (undifferentiated). These latter two groups were impossible to identify with the early psychological tests.

Sex-Role Flexibility and Mental Health

Research on androgyny has addressed two questions based on Western cultural assumptions about socialization to traditional sex roles: psychological adjustment and mental health. One line of research has tested the hypothesis that socializing men and women to traditional masculine or feminine sex roles would lead to rigidity and restricted behavior in many social situations. Because androgynous people have masculine and feminine attributes, they should have the flexibility to adapt to situations that require masculine or feminine behaviors. One series of studies, for example, found that androgynous men and women were more nurturing toward an infant than were masculine men and women. Moreover, androgynous men and women performed better in another experimental situation that required independence than did feminine men and women. In another study, masculine men and feminine women were more likely to choose an experimental activity that was appropriate for their sex (e.g., oiling squeaky hinges on a metal box vs. mixing infant formula and preparing a bottle) than were androgynous men and women. Moreover, masculine men and feminine women reported feeling worse after performing a sex-inappropriate activity than did androgynous men and women.

Other studies have addressed the relationship of androgyny, psychological adjustment, and mental health. Whereas some studies have found androgynous people to have higher self-esteem than traditional masculine or feminine people, the results of other studies are contradictory or mixed. An extensive review of published studies in the area concluded that androgynous and masculine men and women scored higher on several indices of mental health than did feminine men and women. However, statistical analyses indicated that it is the masculinity component of androgyny that is related to mental health rather than the unique combination of masculinity and femininity. The researchers attribute these findings to the psychological benefits masculine men and women enjoy in a culture that encourages assertiveness, competence, and independence.

Current Status

Psychological tests like the BSRI are an important improvement upon the tests constructed in the early 20th century. However, critics assert that because masculinity and femininity consist of a multitude of dimensions, these tests are inadequate. Other critics assert that tests such as the BSRI measure two important dimensions that are characteristic of sex roles across cultures: Masculinity items measure instrumental attributes (representing agency and independence), and femininity items measure expressive attributes (representing nurturance and warmth). Finally, Bem has changed her views on psychological androgyny. She believes that masculine or feminine people think about the world from the perspective of gender, whereas androgynous men and women do not.

Cheryl A. Rickabaugh

See also Masculinity/Femininity; Self-Esteem; Sex Roles

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ANGER

Definition

The term *anger* has multiple meanings in everyday language. People refer to anger as an experience or feeling, a set of physiological reactions, an attitude toward others, a drive leading to aggression, or an overt assault upon some target. In social psychology, anger refers to a particular set of feelings. The feelings usually labeled as "anger" range in intensity from being irritated or annoyed to being furious or enraged. These feelings stem, to a large degree, from the internal physiological reactions and involuntary emotional expressions produced by an offense or mistreatment. Visual features

include facial changes, like frowning eyebrows and dilated nostrils, and motor reactions, such as clenching fists. These feelings are simultaneously influenced by thoughts and memories (i.e., appraisals) that arise. All of these sensory inputs are combined in a person's mind to form the experience of anger. This experience is not aimed at achieving a goal; nor does it serve any useful purpose for the individual in that particular situation.

Distinction From Other Concepts

The terms *anger, hostility,* and *aggressiveness* are often used interchangeably in everyday life. Social psychologists define hostility as a negative attitude toward one or more people that is reflected in a decidedly unfavorable judgment of the target. To differentiate, aggressiveness is any form of behavior directed toward the goal of harming a target. In other words, aggressiveness can also be seen as a disposition toward becoming aggressive. In sum, anger as an experience does not directly activate aggressiveness.

Physiological Reactions

A large body of early research has investigated the mental representations of bodily reactions in anger. Across different investigations, individuals experienced increases in cardiovascular (e.g., higher blood pressure) and muscular (e.g., heightened bodily tension) activity, accompanied by the face feeling hot. This latter observation is consistent with the widespread characterization of anger as a "hot" emotion.

Appraisal Conceptions of Anger

Several contemporary researchers started to extend the focus from the internal physiological aspects to interpretations of external features having an impact on affective states. This so-called appraisal-based view of anger contends that anger exists only when external events are interpreted in a specific manner, that is, when individuals give meaning (i.e., appraise) to the specific situation they are in. More specifically, appraisal researchers argue that the precipitating incident has to be interpreted as an offense or mistreatment. Furthermore, whether individuals see themselves or another person responsible, or whether they blame themselves or another person (i.e., appraisal of agency), for the mistreatment triggers either anger experienced toward the self (i.e., self-directed anger) or the other person (i.e., other-directed anger).

There are several theoretical claims of appraisal formulations that emphasize a different appraisal structure and appraisal process. Much research has been dedicated to test these different formulations against one another. Despite these different formulations, what can be derived from this research is that appraisal formulations can indeed account for the experience of anger.

Anger and Behavior

If an individual is angry with someone else, the desire to act feeds into a "moving against" tendency. The phrase "moving against" characterizes the behavioral impulses activated in the state of anger. Research has shown that anger can trigger action tendencies like striking out or attacking the perpetrator responsible for the elicitation of anger. They are expressed, for example, by verbally or even physically attacking a target.

Anger and Health

Besides triggering action tendencies in the short run, anger has been shown to lead to health problems in the long run. This line of research suggests that the experience of anger, which is accompanied by the cardiovascular (e.g., higher blood pressure) and muscular (e.g., heightened bodily tension) activity, is a risk factor for coronary heart disease.

Recognition of Anger

So how do we come to associate specific movements and gestures of someone else with a specific emotional state? Several researchers have proposed different processes of emotional contagion and/or simulation that provide the means by which we come to know what others are feeling. The idea of emotional contagion implies that a visual representation of another's expression leads us to experience what the other person is feeling, which in turn allows us to infer that person's emotional state. Furthermore, research has indicated that participants exposed to angry faces show increased activity in specific facial muscles (e.g., by frowning their eyebrows). Thus, these data suggest that emotional faces generally induce their mirror images in their observers.

Measurement

Anger is often measured as a dependent variable. In this large body of research, individuals are asked to

indicate their level of anger. This self-report measure has one main problem: The measure is influenced by the respondent's perception. Over the years, the focus on investigating emotions has changed, and several assessments have been developed to study different aspects of emotions. There are three main ways to assess the basic processes of anger. First, the physiological arousal (in other words, the excitement of anger) is often measured by heart rate, muscle tension, or skin conductance. Second, the affective state that represents the feelings and signs of anger is assessed by facial coding of the expression. Finally, the external consideration concerning the cause of the affective state put forward by appraisal theorists is measured by asking individuals directly for their interpretations of the current situation.

Nina Hansen

See also Affect; Aggression; Emotion

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ANONYMITY

See DEINDIVIDUATION

ANTICIPATORY ATTITUDE CHANGE

Definition

Anticipatory attitude change refers to shifting or changing one's expressed opinion or attitude on a topic as a result of being informed that one will be exposed to a message or communication on the topic. Thus, prior to receiving any aspect of the message itself, people might adjust their opinions on a topic to be more positive, negative, or neutral simply in anticipation of receiving a message. In other words, when you know someone is going to try to change your mind, you may change it some already in advance, before even hearing what that person has to say.

Anticipatory attitude change has been studied primarily within the domain of forewarning research, which involves informing people they will be exposed to a persuasive message. Within this domain, researchers have focused on how people's reporting of their opinions change as a result of warning them they will receive a message, prior to actually receiving the message.

Motives for Anticipatory Attitude Change

Anticipatory attitude change has been argued to stem from several different motives. First, if the topic of the message challenges the beliefs held by individuals, individuals may respond by becoming more negative on the topic prior to message exposure. This negative response might result from a simple negative feeling associated with having one's opinion attacked, or might result from a more thoughtful attempt to consider the reasons in favor of one's attitude against the opposing perspective.

A second motivation that might underlie anticipatory attitude change reflects a desire to avoid feeling gullible by providing perspectives that are in agreement with others. Thus, individuals who are told the position of a message may shift their attitudes, in a manner to agree with the message, prior to message exposure to avoid appearing as if they had been persuaded. If the message is in favor of a position, individuals' attitudes will become more positive toward the position; if the message is against a position, individuals' attitudes will become more negative toward the position.

A final cause for anticipatory attitude change follows from concerns about interacting with a person or expressing one's attitude without knowing whether the message or person is in favor or against a particular topic. When another person's view is not known, the best way to safely allow for the possibility of agreement is simply to shift one's attitude to be more moderate. This allows one to more easily take a position similar to the person or message once they learn the position endorsed. For example, if a person becomes more moderate in his or her views, that person is more easily able to agree with another person regardless of the other person's stance on the topic.

Although evidence is still accumulating as to when and whether each of the previously discussed motives operates, it seems likely that each may serve as a

motive for anticipatory attitude change under the right circumstances.

Anticipatory Attitude Change and Topic

One important determinant of the effects of anticipatory attitude change is the topic of the message. On the one hand, if people perceive they will be receiving a message that threatens a valued topic or cherished attitude, they are likely to respond by becoming even more entrenched in their position (i.e., shifting their attitudes to be more opposed to the message position). On the other hand, if people perceive they will be receiving a message that does not challenge important beliefs, they are more inclined to respond by showing acquiescence and shifting their attitudes in favor of the position perceived to be advocated by the message.

Anticipatory Attitude Change and Likelihood of Being Persuaded

A second important moderator of whether people shift their attitude toward the message (for less-important topics) is whether people feel they are likely to be persuaded by the message. Individuals are much more inclined to show anticipatory attitude shifts if they believe a message will persuade them. Consequently, research has found individuals show more agreement with a position, prior to the message, if they believe the message is expected to be highly persuasive or to be delivered by a highly persuasive source (e.g., a person with expertise or knowledge). These findings are consistent with the idea that people might sometimes shift their attitudes to avoid appearing to have been persuaded and gullible.

Duration of Anticipatory Attitude Change

The long-term effects of anticipatory attitude change may well depend on whether an actual message is received or not. In fact, research suggests that anticipatory attitude change may be extremely short-lived if no message is presented. When people are informed they will no longer be receiving a message and then are asked to provide their attitude a second time, their attitudes often revert back to the same attitudes they had prior to the anticipatory attitude change. Thus, an individual who became more negative toward a topic, upon learning a message would be given on that topic, would become less negative as soon as he or she learned the message would not be given, reverting back to his or her original opinion.

If a message is actually presented, however, the attitudes resulting from anticipatory attitude change may influence how the message is processed or scrutinized. For example, individuals may attend to the information in a message in a manner that supports the attitudes that resulted from anticipatory attitude change. Individuals who become more negative in anticipation of the message may focus on the negatives within the message, reaffirming their negative attitudes upon hearing the message. Similarly, individuals who become more positive in anticipation of the message may focus on the positives within the message, reaffirming their positive attitudes. This pattern of processing may lead to actual and enduring attitude change. As a result, anticipatory attitude change might also have potentially long-term and enduring results.

Derek D. Rucker

See also Attitudes; Forewarning; Inoculation Theory; Persuasion; Reactance

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ANTISOCIAL BEHAVIOR

Definition

Antisocial behavior refers to actions that violate social norms in ways that reflect disregard for others or that reflect the violation of others' rights. The major reason to study antisocial behavior is that it is harmful to people. Also, it raises issues of whether people are inherently prone to be harmful to others and whether harmful, reckless people can be cured.

Distinctions and Examples

Antisocial behavior encompasses a wide range of behaviors, such as initiating physical fights, bullying, lying to others for personal gain, being reckless toward others, and even engaging in unlawful acts that do not directly hurt others but indirectly affect others in a negative way (such as stealing or vandalizing personal property). One distinction among various antisocial acts is whether the acts are overt versus covert—that is, whether the acts are hidden from others. A second distinction is whether the behavior is destructive—that is, whether the behavior directly harms another person. For example, destructive overt acts include physical or verbal aggression, bullying, fighting, threatening, being spiteful, cruel, and rejecting or ostracizing another person. Examples of nondestructive overt acts include arguing, stubbornness, and having a bad temper with others. Examples of destructive covert acts include stealing, lying, cheating, and destroying property, whereas nondestructive covert acts might include truancy, substance use, and swearing. When considering the most versus least harm to others, overt destructive acts are most severe, followed by covert destructive acts, overt nondestructive acts, and finally nondestructive covert acts.

Boys and men are more often perpetrators of antisocial behavior than are girls and women, and they differ in what they do. Males are more likely to engage in criminal activity and overt aggression; females are more likely to engage in relational aggression or harm caused by damaging a peer's reputation (e.g., spreading rumors, excluding them from the peer group).

Prevalence and Persistence

The majority of men who engage in antisocial acts do so only during their adolescent years. Antisocial behavior is so common during adolescence that a majority of men do something antisocial, such as having police contact for an infringement; roughly one third of boys are labeled delinquent at some point during their adolescence. However, most of them cease their antisocial ways by their mid-20s. Terrie Moffitt termed this *adolescence-limited antisocial behavior*. In contrast, she suggests that *life-course-persistent antisocial behavior* is committed only by a minority of people. These men show antisocial tendencies and traits as children (even during infancy). These tendencies persist throughout their lives, even if the behaviors per se cease during mid

to late adulthood. They typically are diagnosed with antisocial personality disorder, which means they show a persistent pattern of frequent antisocial behavior as adults. The *Diagnostic and Statistical Manual of Mental Disorders* (*DSM–IV*), published in 1994 by the American Psychiatric Association, describes the characteristics that lead to this diagnosis. In short, while many people engage in antisocial behavior once or occasionally during adolescence, many fewer people show a persistent antisocial behavior pattern that begins early in life and continues into adulthood.

Causes and Treatment

Because antisocial behaviors have obvious negative consequences for victims, especially, but also for perpetrators (e.g., prison), substantial research has gone toward understanding what causes antisocial behavior and how it can be stopped.

Theory and research to understand who is likely to engage in antisocial behavior have resulted in two different views, resurrecting the nature versus nurture debate. One view is that biological factors present at birth, such as genes and inherent personality traits, are most important in determining antisocial behavior. The other view emphasizes environmental factors, such as parenting style (e.g., ineffective responses to child aggression, poor communication, weak family bonds, child neglect and/or abuse), peer relationships (e.g., being around others who are antisocial, being rejected by peers, social isolation), poverty, and lack of education.

The distinction between adolescence-limited and life-course-persistent antisocial behavior is relevant to understanding causes. When this distinction is omitted, analyses that integrate information from many studies (*meta-analyses*) suggest that 40% to 50% of examined instances of antisocial behavior may be due to genetic influences rather than environmental influences. However, studies do not capture all instances of antisocial behavior and likely overrepresent people whose antisocial tendencies are persistent over time. People whose antisocial acts persist throughout the life course are more likely to have brains that are programmed toward antisocial behavior that, when combined with the right environmental factors and expectations from others, trigger antisocial behavior. People whose antisocial acts are limited to adolescence may suffer from being emotionally or socially immature (relative to

their biological age), and as such, they are vulnerable to the influence of persistent antisocial peers and models. Moreover, the heritability of antisocial behavior depends on the act being examined; property crimes show a greater genetic influence than violent crimes.

If antisocial behavior cannot be effectively prevented, it becomes important to stop it. In general, interventions to stop life-course-persistent antisocial behavior have had only limited to no success. Even medical treatments are ineffective. Moreover, these individuals are reluctant to seek help and typically are court-ordered into treatment. Interventions on those who engage in adolescence-limited antisocial behavior have been more successful, particularly treatments based on teaching behavioral skills (rather than counseling-based treatments).

Implications

Ultimately researchers study the nature, causes, and limits of antisocial behavior to understand whether people are innately reckless or harmful toward others and whether such people can be stopped. Although there has been progress in identifying causes, the issue of predicting with certainty who will engage in antisocial behavior remains unresolved. Moreover, effective treatment for persistent antisocial behavior is in its infancy and stands to be developed further.

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See also Aggression; Bullying; Deception (Lying); Intimate Partner Violence; Narcissism; Ostracism; Sexual Harassment

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ANXIETY

Definition

Anxiety is an unpleasant emotional state, characterized by tension, apprehension, and worry. It occurs in response to a perceived threat, which in the case of fear is fairly specific and identifiable (e.g., seeing a snake) but in the case of anxiety tends to be vague and suspenseful (e.g., giving a speech). It is a defensive response, one that signals danger and, like other emotions, is thought to have an important function related to survival. In the social arena, the threat is the perceived potential harm to one's self-esteem, self-worth, or self-concept. The anxiety can be domain specific (e.g., text anxiety, public speaking anxiety). Anxiety can help an individual identify a negative event and cope with it; if excessive or uncontrollable, however, anxiety is maladaptive.

Background

The concept of anxiety has a long and revered history in psychology, beginning at least with Sigmund Freud who offered one early conceptualization. He saw anxiety as a warning signal that something threatening could happen. For Freud, neurotic anxiety was the central concern. This is the unconscious fear that one's impulses (the Id) may take over and lead a person to do things that would be punished. The anxiety is a signal to one's rational side (the Ego), and the unconscious worry reflects the internal psychological battle between these psychic forces.

Later theorists, sometimes called post-Freudian, characterized anxiety as basic, stemming from a child's dependency (particularly feelings of being isolated and helpless in a potentially hostile world). Being raised in a nurturing home, however, where security, trust, love, tolerance, and warmth prevail can replace such fears of being abandoned and produce more adaptive relations with other people. Abraham Maslow is highly regarded for his proposal of a hierarchy of needs and his focus on the positive side of human experience (i.e., self-actualization). But he is also noted for placing safety and physical security needs at a fundamental level on the hierarchy, suggesting that they must be satisfied before higher-order needs such as love, esteem, and actualization can be realized.

These ideas set the stage for contemporary research on attachment theory, where the emotional connection between a caregiver and child can either prove secure and dependable (i.e., safe) or insecure. The importance of attachment and a sense of belongingness, and trust in relationships, have come to be central themes for contemporary social psychology. The attachment patterns of adults shows that these infant attachment

patterns either persist into adulthood or emerge again in adult long-term intimate relationships.

The social psychological roots of the anxiety construct can also be traced to William James's hypothesis that an emotional state is the result of an interaction of bodily changes and cognitive life. Stanley Schachter and Jerome Singer's famous two-factor theory of emotion sees an emotional state as the combination of a diffuse physiological arousal coupled with a cognitive interpretation of that arousal. When the source of arousal is easily identified, the emotion is easily labeled. However, when no arousal is expected, people are subject to cues in the environment that would stimulate an emotion. When those cues are vague and ill-defined, the subjective experience may be threatening and may produce anxiety.

The Nature of Anxiety

Anxiety is generally regarded as having a set of component parts that include cognitive functioning, physiological, emotional, and behavioral facets. One cognitive component is the expectation of uncertain danger, of course. Anxiety also uses up attention capacity. One consequence is that people with high test anxiety or high social anxiety become less efficient in their behavior, once anxiety is aroused, and their attention is divided. The disruptive impact of anxiety on behavior is illustrated by the large number of errors on performance-related tasks, such as speech-anxious individuals making more speech errors, stammering more, producing more "um" sounds.

Anxiety also stimulates intense vigilance and attention to threat. Anxious individuals are faster to find threat, even in a word recognition task (i.e., threatening words) that involves reaction times measured in fractions of a second. This shows their threat-focused information processing style.

Anxiety is associated with increases in cardiac reactivity (e.g., heart rate and blood pressure) and with other physiological indices (e.g., blood flow to major muscle groups, sweating, trembling, etc.). Physiological arousal is characterized by heightened activation of the automatic nervous system and serves to energize behavior. Physiological arousal can be interpreted positively (as elation, surprise, or attraction), or negatively (as fear, anger, or anxiety).

Most contemporary brain researchers agree that there are two anatomically distinct pathways that interpret physiological arousal: the behavioral approach system (BAS) and the behavioral inhibition system (BIS). The BAS is sensitive to positive stimuli and gives rise to a pleasurable emotional state. The BIS is a parallel system associated with danger and punishment, giving rise to unpleasurable interpretations of events. The BIS is associated with the emotional state of anxiety. This association of the BIS to anxiety helps explain why anxiety is connected to attempts to escape or avoid things that are unpleasant (e.g., worry about making mistakes and withholding responses; shy-like behaviors, such as avoiding criticism or rejection; withdrawing affection in anticipation of being rejected). Of course, escape and avoidance are maladaptive when extreme, as in clinically diagnosed anxiety disorders, but are common in everyday life where nonpathological levels of anxiety occur.

Anxiety is often distinguished in terms of its state or trait nature. *State anxiety* is a transitory unpleasant emotional arousal stemming from a cognitive appraisal of a threat of some type. *Trait anxiety* is a stable, personality quality (stable individual difference) in the tendency to respond to threat with state anxiety. One common inventory to identify anxiety is the State-Trait Anxiety Inventory (Charles Spielberger and colleagues); research has also distinguished between a worry (i.e., cognitive) component of anxiety and an emotionality (i.e., arousal) component of anxiety.

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See also Arousal; Intergroup Anxiety; Social Anxiety

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APPARENT MENTAL CAUSATION

Definition

The theory of apparent mental causation outlines the conditions under which people experience a sense of

consciously willing their actions. Although people often feel that their conscious thoughts cause their actions, this feeling is illusory, as both their actions and their experience of willing them arise independently from unconscious sources. People feel apparent mental causation when their thoughts precede their actions (priority), when their thoughts are consistent with their actions (consistency), and when their thoughts are the only plausible cause of their actions (exclusivity).

An Example

Imagine that you're in the park on a summer day and a specific tree branch catches your eyes. You think, "I wish it would move up and down," and lo and behold, it moves. Not only that, it moves in the exact direction you imagined it moving, and when you search for alternative causes for its motion, you find nothing. There is no wind or mischievous tree-climbing kid that can account for the motion. Did your thoughts cause it to move? Given that there is nothing else to account for its motion (exclusivity), and that it moved right after you thought about it (priority) in perfectly the right direction (consistency), you feel as if you caused the branch to move, even though it seems impossible. In the same way, people infer causation between their own thoughts and actions when these principles are in place.

Conscious Thoughts Are Not Causal

Although it feels as though conscious thoughts cause actions, neurological evidence shows that this is highly unlikely. In a series of experiments, Benjamin Libet measured the brain activation of people as they made voluntary finger movements. Specifically, he measured the part of the motor cortex that is responsible for moving one's fingers, while also recording the time at which people said they consciously decided to move their finger. He found that participants' conscious decisions to move came after the time at which their motor cortex had started to activate. This means that their unconscious mind had already started to move their finger when they experienced the conscious decision to move it. As causes must precede effects, the conscious mind must be ruled out as the cause of people's actions. The theory of apparent mental causation suggests why and how it is that people nonetheless feel as though their thoughts cause their actions.

Three Principles of Apparent Mental Causation

Priority

People's thoughts must immediately precede their actions for them to experience mental causation. If thoughts appear after action, there is no experience of willing one's actions. Similarly, if thoughts appear too far in advance, this experience will also be lacking. This is exemplified by those instances in which you decide to grab something from your bedroom, only to find yourself standing beside the bed with no idea why you're there, and no experience of mental causation for your action.

Consistency

To experience mental causation, people's actions must match their thoughts, and although this is usually the case, consistency is often lacking in failures of self-control. Imagine yourself surfing the Web one night when you look up at the clock; you see that it's well past your bedtime and decide to shut down the computer and head to bed. Twenty minutes later, in spite of your intentions, you find yourself still madly clicking links, with no accompanying sense of mental causation.

Exclusivity

People experience mental causation when their thoughts are the only plausible explanation for their actions. While the link between thoughts and actions is usually clear, in some psychological disorders the principle of exclusivity is violated. For instance, one symptom of schizophrenia, called thought insertion, involves believing that another entity (e.g., the CIA) is inserting thoughts into one's head. If one's actions appear to be caused by the thoughts of another, the experience of mental causation will be subsequently undermined.

Evidence

Through a number of studies, Daniel Wegner demonstrated the importance of these principles in determining mental causation. He used a paradigm whereby a participant did a task together with an accomplice, in which it was questionable whether the participant or the accomplice was controlling the action. The task was based on an Ouija board, where it is difficult to tell who is responsible for moving the planchette to convey

messages beyond the grave. In this study, there were a number of pictures on the Ouija board, and at regular intervals the accomplice stopped the planchette at one of these pictures. Although the accomplice was always controlling which picture the planchette pointed to, the participant experienced a sense of mental causation for the action when he or she had a prior thought that was consistent with the action (e.g., by hearing the word *dog* over a pair of headphones just before the planchette stopped at the picture of a dog). This demonstrates that, even in situations in which the participant has no control over the task, the experience of apparent mental causation can be manipulated by varying the three principles that link thoughts to actions.

Implications

If people's experience of free will is not causative and instead results from the same unconscious process that determines their action, then how are people to be held responsible for their actions? This question, traditionally raised by philosophers, is a pressing concern for psychologists and legal theorists. Although the experience of conscious will is only a feeling, not a guarantee that one's thoughts have caused one's actions, this feeling allows people to make a working distinction between those actions that feel free and those that feel forced. The experience of mental causation can be used to provide a readout of how free one was in performing an action. If someone takes your hand and makes you pull the trigger of a gun, you will feel less-apparent mental causation than if you calmly, and after much thought, decided to pull the trigger. As people would not wish to be punished for those actions that lack an accompanying feeling of mental causation, they can use that standard in evaluating others. Legal decisions can be based on one's experience of mental causation, thereby leaving how a person makes judgments of responsibility relatively unchanged.

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See also Consciousness; Free Will, Study of; Nonconscious Processes

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APPLIED SOCIAL PSYCHOLOGY

Definition

Applied social psychology can be defined as using social psychological theories, principles, research findings, and experimental methods to understand social issues and to offer real-world solutions for a variety of social problems. As a discipline, applied social psychology functions on the premise that social problems are, at their heart, caused by human behavior. To understand and change these problem behaviors, applied social psychologists conduct a scientific examination of individuals' thoughts, feelings, and behaviors as they pertain to a variety of social influences. Through their research, applied social psychologists hope to offer practical suggestions for improving human social behavior in areas ranging from workplace productivity to safer sexual activity.

History and Background

While an earlier generation of psychologists had been predominantly interested in the structure and measurement of mental tasks in the laboratory, the 20th century saw a substantial increase in researchers advocating the application of theories outside the laboratory. In 1903, experimental psychologist Walter Dill Scott wrote *The Theory and Practice of Advertising,* suggesting that consumer habits could be influenced by emotional suggestions. In 1908, psychologist Hugo Münsterberg defined applied psychology as research adjusted to fit the problems encountered in everyday life. In works on industrial psychology, advertising, and education, Münsterberg, Scott, and others began exploring the possibilities of an applied psychology. In 1917, psychologist G. S. Hall founded the *Journal of Applied Psychology* to further explore the potential of this new field.

By the 1920s, there was an undeniable enthusiasm for applied research in the psychological community, despite its reputation as an "undignified" pursuit. In addition to the new challenges it presented, applied research was also attractive because private corporations often provided better salaries than did academic institutions. John B. Watson, former American Psychological Association president and one of the founders of modern behaviorism, began a successful career at

the J. Walter Thompson advertising firm after being fired from Johns Hopkins University in 1920. Watson was able to put psychological principles into practice with such advertising industry standards as expert and celebrity testimonials and focus group research. He was promoted to vice president in only 4 years and was eventually honored for his achievements by the American Psychological Association. Even those psychologists who stayed in traditional laboratories found that it was easier to justify lab materials and costs if their research had the potential for application.

The work of Kurt Lewin (1840–1947) marks the beginning of modern applied social psychology. Lewin, best known for his field theory suggesting that behavior is a function of an individual's personality and his or her environment, proposed that social psychologists should engage in what he called *action research.* A social activist himself, Lewin believed that social issues should inspire social psychological research. This research could then be used to provide solutions for social problems. Lewin's action research sought to define a social problem, recommend countermeasures, and test the effectiveness of those countermeasures through community involvement, surveys, case studies, and controlled experiments. To this end, Lewin formed several organizations to engage in action research, including the Society for the Psychological Study of Social Issues, the Research Center for Group Dynamics, the Commission on Community Interrelations, and the National Training Laboratories. These groups studied interracial housing, ingroup loyalty, and leadership styles, establishing Lewin as one of the foremost proponents of combined applied and theoretical social psychology in the history of psychology.

As social psychology sought greater acceptance as a science in the 1950s and 1960s, action research in the field became less popular and was replaced by basic academic social psychology. It was not until the late 1960s and 1970s, while American society was undergoing radical transformations as a result of the civil rights movement, the Vietnam War, and the Watergate scandal, that social psychologists returned to the field in an attempt to understand and explain what was happening around them. Through the 1970s and 1980s, social psychologists debated if applied research could inform public policy. If so, many felt that the researchers themselves must present and explain their findings to policymakers or risk dangerous misinterpretation of their work.

Applied social psychology has been growing in prestige since the 1980s. With applications ranging from improving the criminal justice system to informing education and health issues, the last few decades have seen substantial increases in nontraditional funding sources. While applied social psychological research continues within academic institutions, private and government grants, as well as full-time research positions within large corporations, have allowed researchers the flexibility and opportunity to study a diverse array of social phenomena.

Unique Features of Applied Social Psychology

While research in basic social psychology often begins with scientific curiosity, work in applied social psychology typically starts with the identification of a specific social problem, such as teen pregnancy or hate crimes. Applied social psychologists seek to understand and treat these social maladies through the application of the theories and methods of social psychology. While basic social psychologists attempt to isolate the causal relationships between a small number of specific variables that can be carefully controlled in the lab, applied social psychologists work to identify and predict large-scale effects that can be used to design and implement social programs. Real social issues rarely involve only one or two psychological variables. Therefore, it is often useful for applied social psychologists to consider broad combinations of psychological principles when attempting to understand a social issue. It is also common for applied social psychologists to adopt an interdisciplinary approach to their work, incorporating economic, sociological, and political perspectives.

Within the laboratory, social psychologists are generally able to conduct precise and carefully controlled experimental manipulations to test their hypotheses. Within communities and businesses, applied researchers often work in unpredictable and unrestricted environments, relying on less-precise research techniques such as surveys, self-reports, and rough "before and after" evaluations. Often at the mercy of corporate or government sponsors, applied social psychologists work under program deadlines, funding restrictions, and political pressures.

While laboratory effects need to reach statistical significance to support the hypothesis of the experimenter, implemented social programs need to show effects that

are not only statistically significant but also large enough to have real-world consequences for the program's sponsor. Applied social psychologists must also make quantitative estimates when designing an experimental social program to show that the program's benefits will ultimately outweigh the initial costs.

Working in Applied Social Psychology

To list all the areas to which social psychology is currently being applied would be almost impossible. Broadly, applied social psychologists are active in studying and improving educational programs, industrial and organizational productivity, environmental and health care issues, justice system reform, and all types of mass communication, including advertising, public relations, and politics.

Some applied social psychologists conduct research for academic institutions, some for private foundations and corporations, and some for government organizations. Some evaluate the success or failure of a specific experimental social program while others work as internal consultants to government agencies and businesses, providing feedback on a variety of projects. Some applied social psychologists give policy advice to corporate or government managers from outside an organization while still others become managers themselves. Finally, some applied social psychologists become full-time advocates for social change, working with activist groups rather than from inside a government or corporate body.

Criticisms of Applied Social Psychology

Criticisms of applied social psychology come from psychologists as well as from policymakers. Laboratory psychologists question the methodology behind much of the applied social research. With no control groups, few experimental manipulations, and a heavy reliance on self-report and correlation, can applied social psychology really contribute to social psychological theories? After all, a successful social program will need to be tailored differently to every community in which it is implemented. Policymakers question whether the effects of experimental social programs are large enough (or cheap enough) to be widely implemented. Others argue that the large-scale behavior modification implied in some social psychological programs is

unethical. Ultimately, there is a genuine tradeoff between conducting basic and applied social psychological research. In basic studies, researchers seek general principles that may not directly apply to more complicated real-world problems; in applied studies, researchers address specific problems, yet their conclusions may fail to generalize to other situations.

While both groups have valid critiques of an admittedly murky field, it is important to emphasize that applied social psychologists are actively engaged in the scientific study of social issues. While this problem-oriented approach does take some emphasis away from theory building, the plethora of field observations and unique program implementations essential to applied research will only serve to strengthen and refine current and future social psychological theories. Although the oversimplification of research findings could lead to the improper implementation of social programs, applied social psychologists seek to prevent such use by taking an active role in designing socially responsible policy.

A final issue to note is that the implied divide between applied and basic research ignores the contributions that basic social psychologists often make to areas of application. While applied social psychology refers to research with a problem-oriented focus, it is much more difficult to define who meets the definition of an applied social psychologist. Many psychologists primarily focused on basic laboratory research are also actively involved in the Society for the Psychological Study of Social Issues and other organizations committed to the application of social psychological principles.

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See also Ecological Validity; Quasi-Experimental Designs; Research Methods

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APPROACH–AVOIDANCE CONFLICT

Definition

Approach means moving toward something. Avoidance means moving away from it. Obviously you can't move toward and away from the same thing at the same time. Approach–avoidance conflict arises when a goal has both positive and negative aspects, and thus leads to approach and avoidance reactions at the same time. Kurt Lewin introduced the concept, referring to two competing forces of positive and negative valence that act upon an individual in parallel. For example, if a person wants to eat a cake (positive valence) but also wants to avoid gaining weight (negative valence), this constitutes an approach–avoidance conflict that has to be solved. People can also experience approach–approach conflicts (two positive forces are activated; for example, if the person considers two movies worth seeing), avoidance–avoidance conflicts (two negative forces are activated; for example, if the person has to do decide whether to go to the dentist or to finish unpleasant homework), or a double approach–avoidance conflict (two choice alternatives contain both positive and negative aspects; for example, if the decision between two movies is complicated because both contain performers one likes and hates). All kinds of conflicts have been discussed throughout various areas of psychology, including psychopathology, motivation psychology, and organizational psychology.

Factors for Strength of Conflict and Conflict Resolution

For approach–avoidance conflict strength and resolution, Lewin suggested three factors: tension which is created by a need or a desire (e.g., I am hungry vs. I want to lose weight), magnitude of valence (e.g., I do like cake a lot vs. I do hate being overweight), and psychological distance (e.g., the cake is easy to get vs. it is hard to obtain my goal of 160 pounds). If tension, valence, and distance are equally strong, the conflict is not easy to solve, making it so that such conflicts can be relatively stable over time. Psychologically, one possible solution is to change the valence of the aspects of the goal aspects. One can, for example, devalue the cake by actively searching for negative aspects of it, or one can increase the importance of staying slim by collecting even more positive aspects of it. For approach–avoidance conflicts, distance seems to be a crucial factor. Lewin reasoned that whereas from a distance the positive valence looms larger, the closer one gets to the conflicted goal, the larger looms the negative valence. An individual first approaches the conflicted goal at a distance, then is blocked and vacillates at an intermediate point when avoidance and approach become equally strong, and finally retreats when even closer to the goal.

Further Qualifications and Findings

Neal Miller advanced this approach and combined it with Clark Hull's notion of goal gradients, defining distance as a crucial variable of motivation. The closer one is to the goal, the stronger the motivation (i.e., the goal looms larger effect), and this gradient is steeper for avoidance than approach goals. In other words, as you get closer to something you want, the desire to approach it grows stronger little by little; whereas as you get closer to something you hate or wish to avoid, the desire to avoid it grows stronger rapidly. Because in conflict situations the stronger reaction usually wins, avoidance reactions have a slight advantage over approach reactions to be instantiated. Primary support for the differences of approach versus avoidance gradients came from studies by Judson Brown, in which harnessed rats were interrupted at various stages of approaching food and avoiding shock, showing that avoidance reactions were stronger when the rats were closer to shock than when they were approaching food. Seymour Epstein was able to find similar results with amateur parachutists before their first jump, illustrating that fear reactions increased the closer individuals were to their goal. On the other hand, directly before the jump the approach reaction increased dramatically, as presumably individuals were able to cope with the fear quite efficiently. Walter Fenz qualified the findings in showing that good parachutists and experts show approach reactions earlier before their jump.

However, over the years, results from studies on humans and animals were sometimes quite inconsistent with this theory, because for some individuals approach gradients were steeper, and thus qualifications were needed.

Jens Förster and colleagues addressed why the goal should loom larger in greater detail. They reasoned that while working toward a goal, each step that makes goal attainment more likely is a success. The value of a success increases as its contribution to goal attainment

increases. The contribution of a success to goal attainment depends on the magnitude of the remaining discrepancy to the goal that it reduces. If there are equal steps taken while working toward the goal, each step reduces a higher proportion of the remaining discrepancy. If the goal is to solve each of 10 anagrams, for example, solving the first reduces 10% of the remaining discrepancy, whereas solving the last reduces 100% of the remaining discrepancy. Thus, the value of a success increases as one is closer to the goal. The greater the value is of succeeding, the stronger the motivation is to succeed. And the stronger the motivation is to succeed, the stronger the strategic motivations are that yield success.

Moreover, the goal looms larger effect may differ based on one's chronic or situational regulatory focus. According to regulatory focus theory by Tory Higgins, goal-directed behavior is regulated by two distinct motivational systems. These two systems, termed *promotion* and *prevention,* each serve different survival-relevant concerns. The promotion system is conceived of as orienting the individual toward obtaining nurturance and is thought to underlie higher-level concerns with accomplishment and achievement. In contrast, the prevention system is considered to orient the individual toward obtaining safety and is thought to underlie higher-level concerns with self-protection and fulfillment of responsibilities. Critically, activation of these motivational systems is posited to engender distinct strategic inclinations, with promotion leading to greater approach motivation in service of maximizing gains and prevention leading to greater avoidance motivation in service of minimizing losses. Consistently, Förster and colleagues showed that the steep avoidance gradient can be found only in individuals with chronically or situationally induced prevention foci, whereas for individuals with chronically or situationally induced promotion foci, approach motivation, but not avoidance motivation, increased the closer individuals were to their specific goal.

Jens Förster

See also Achievement Motivation; Bad Is Stronger Than Good; Conflict Resolution; Regulatory Focus Theory

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Arousal

Definition

Arousal generally refers to the experience of increased physiological (inside-the-body) activity. This can include an increased (faster) heart rate, perspiration, and rapid breathing. In some cases, the term *arousal* is used to specifically refer to sexual feelings (and the resulting bodily changes). In essence, arousal is the bodily sensation of feeling energized. A person experiencing high arousal is active, animated, and/or alert, while a person who experiences low arousal is slow, sluggish, and/or sleepy.

Although many emotions (such as love and anger) include high arousal, it is possible to have arousal more or less by itself. Such a state is created by getting a dose of adrenaline (such as from an injection). Many people get this effect from a strong dose of caffeine. Being nervous, as before an athletic or musical performance, is much the same: The body is cranking up its energy level.

Context and Importance

Because arousal affects much of the body all at once, it has the ability to influence numerous aspects of people' everyday experience. Within the context of social psychology, the experience of arousal has implications in a number of areas, including the experience of emotion, attitudes, lie detection, aggression, attraction, and love.

Experience of Emotion

The ability to experience emotion is one of the characteristics that distinguish humans from other animals. There are several theories that try to explain emotions. However, one theory focuses on how arousal, combined with the social environment, determines emotions. The two-factor theory of emotion, proposed by Stanley Schachter and Jerome Singer, states that when people are physiologically aroused, their emotional experience

is determined by how they think about the arousal; in addition, other people are able to influence a person's thoughts. For example, when graduating from high school, a person is likely to experience a heightened level of arousal. However, this arousal may be labeled as excitement when around friends or as anxiety/despair when around parents or former teachers. In both cases, the same bodily arousal becomes labeled as two different emotions depending on the social context.

Attitudes

Perhaps due to its links with emotion, arousal is also an indication of how strongly a person holds an attitude. For example, if you wanted to know how strongly a person felt about a political candidate, you could measure that person's heart rate, perspiration, and so on. The candidate that elicits the most arousal is the one felt most strongly about. However, measuring arousal in this fashion cannot tell you whether the person likes or dislikes the candidate; just that they feel strongly.

Attitudes also have the ability to create arousal. This is likely when an attitude (e.g., "I love animals") conflicts with another attitude (e.g., "Animals should be used for lab testing"), or with a behavior (e.g., "My fur coat looks great on me"). Lack of consistency among attitudes and/or behavior tends to produce feelings of tension and uneasiness (i.e., physiological arousal). According to Leon Festinger, people are motivated to relieve their aroused state by adjusting their attitudes to be more consistent.

Lie Detection

Arousal's link to emotions, attitudes, and inconsistency make the measurement of physiological arousal a potentially useful tool for lie detection. A lie detector test measures various physiological indicators or arousal such as heart rate, breathing rate, and perspiration. The assumption is that lying (which is an inconsistency between what is true and what is reported to be true) produces arousal that can be detected by the machine. Unfortunately, as with the strength of attitudes, the machine can only assess the level of arousal, and not what may be causing it. For example, a person may be aroused because they are lying, or they may experience arousal because they are worried that they are accused of committing a crime.

Aggression

Due to the energizing nature of arousal, it has a key role in helping us understand why people become aggressive. When people encounter any type of undesirable experience, arousal levels and aggression tend to increase. Unfortunately, a number of things have been found to produce increased arousal. These include high temperatures, crowding, pain, loud noises, violent movies, bad odors, and cigarette smoke. In each case, these factors produce heightened levels of arousal and the likelihood of increased aggression.

One reason is that arousal produced from one experience (e.g., being in a crowd) may be directed toward another target. A good example of this would be a person who gets stuck in traffic while driving home from work. Upon returning home after an hour of sitting in a hot car, listening to people honking their horns, a parent may yell at his or her child for no apparent reason.

This link between arousal and aggression has important implications for how people deal with anger. A common misconception is that acting aggressive in appropriate contexts (e.g., playing sports, playing video games) is a good way to decrease aggression. However, because these activities also increase arousal, they tend to increase (not decrease) aggressive feelings.

Attraction

Just as arousal can transfer from one source to another to produce aggression, arousal also has the ability to produce positive feelings, such as attraction. In a famous study, Donald Dutton and Arthur Aron tested people crossing two bridges. One bridge was extremely high and shaky and heightened arousal. Another bridge was lower and sturdier, resulting in lower levels of arousal. To determine if arousal could produce attraction, they tested men's reactions to a woman they met while crossing. The results indicated that men on the more arousal-provoking high bridge were more attracted to the woman.

Love

The bridge study relied on general experiences of arousal. However, arousal can also be experienced in a sexual sense. One theory of love distinguishes passionate love (the type you feel toward a romantic partner) from companionate love (the type you experience

toward a good friend). The key difference is that passionate love involves the feeling of sexual arousal (i.e., fluttering heart, feelings of anticipation, etc.) that is associated with the romantic partner. This connection is credited with the highly energized feelings that are produced at the mere sight of the beloved.

Gary W. Lewandowski, Jr.

See also Aggression; Attraction; Emotion; Excitation-Transfer Theory; Misattribution of Arousal

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ASSIMILATION PROCESSES

Many psychological terms have meanings similar to how those terms are used in everyday language. Such is the case with assimilation, which a plain old English dictionary defines as to absorb, digest, and integrate (usually into a culture), making disparate people/items similar. Its use in social psychology (across separate content domains) is similar; assimilation means that when a person observes and interprets other people, groups of others, or even the self, a variety of things are observed, and one of those observed items will draw to it, or absorb, the others, thus shaping and molding the meaning of the others.

The term was first used in social psychology by Fritz Heider in 1944 when describing interpersonal perception. When judging a person's behavior (trying to interpret what one has observed the person do), knowledge of that person's personality matters greatly. The personality colors one's interpretation of that person's behavior (so that it is absorbed by it). For example, when you observe a person cut ahead in a line, you may describe that behavior as "rude" if you know the person to be a rude type, but as "efficient" if you know that person to be a perpetually late type. The same exact act has two different meanings when assimilated by two different personality traits. Similarly, assimilation can happen in the reverse direction, when trying to infer what a person's personality is like based on a behavior one has observed. The behavior strongly guides one's inference about what the person is like. A cruel act will assimilate toward it the inference that the person is cruel as well. One's impressions of people are assimilated toward their action.

Research over the past 30 years has shown that it is not only a known personality trait that can assimilate. Indeed, any trait that one has recently been exposed to can shape how he or she sees a person. Witnessing a person acting mean toward a dog while on your way to the store may momentarily trigger or prime the concept "mean" in your mind without your even realizing it consciously. Once triggered, it now has the power to assimilate toward it any relevant new behavior you observe. Thus, once entering the store, the next person you encounter may be seen by you as mean if he or she acts in a way that is even moderately unfriendly. What is important about the act of assimilation here is that (a) you would never have inferred the person to be unfriendly if "mean" had not been triggered before, and (b) it occurs without your realizing it has an impact or that you were even thinking about the quality "mean." Importantly, this is how stereotypes operate. Detecting a person's group membership (such as "woman") will trigger stereotypes (such as women are emotional), even without your knowing it. This can then lead you to assimilate that person's behavior toward this trait so that the woman is actually seen by you as emotional even if she has provided no real evidence. Assimilation provides for people the evidence by absorbing the behavior and coloring how it is seen.

The term *assimilation* has similar uses outside person perception. In the attitude literature, it describes a process whereby people use their own existing attitudes as a standard against which new information is judged. If the new information seems close enough to the attitudinal standard (i.e., it falls within what is called a latitude of acceptance), then the new object receives the evaluation linked to the attitude (the evaluation of the new item is assimilated toward the evaluation already existing for the standard). For example, if you have a favorable attitude toward recycling (the standard) and then hear a news report about recycling that you see as close enough to your own view (i.e., it is not antirecycling), you will come to see that report as promoting views similar to your own, and you will like it. Importantly, if you did not have initial views (a standard) that provided a strong evaluation about

recycling, then the same message would not be as persuasive or be interpreted as favorably. The new message is colored by the existing attitude.

Assimilation is also shown to occur in determining one's sense of self. Identity is partly determined by the qualities of the groups to which one belongs, with identity being drawn toward those features identified with desired ingroups. According to Marilyn Brewer's optimal distinctiveness theory, identity is constantly trying to balance two needs of the person—the need to assimilate identity toward desired others (and to be as much like the valued members of the groups one belongs to) and the need to differentiate and have a distinct sense of self. Thus identity is, in part, a process of assimilating the sense of self toward desired and valued others.

Gordon B. Moskowitz

See also Accessibility; Attitudes; Contrast Effects; Identity Status; Impression Management; Interpersonal Cognition; Optimal Distinctiveness Theory; Priming; Stereotypes and Stereotyping

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ASSOCIATIVE NETWORKS

Definition

Associative networks are cognitive models that incorporate long-known principles of association to represent key features of human memory. When two things (e.g., "bacon" and "eggs") are thought about simultaneously, they may become linked in memory. Subsequently, when one thinks about bacon, eggs are likely to come to mind as well. Over 2,000 years ago, Aristotle described some of the principles governing the role of such associations in memory. Similar principles were elaborated by British philosophers in the 1700s, and contributed to a variety of psychological theories, including those developed by contemporary cognitive psychologists to model memory.

Basic Models

In associative network models, memory is construed as a metaphorical network of cognitive concepts (e.g., objects, events and ideas) interconnected by links (or pathways) reflecting the strength of association between pairs of concepts. Such models commonly incorporate ideas about "spreading activation" to represent the processes of memory retrieval. According to such models, concepts that are currently being thought about are said to be "activated," and "excitation" spreads from these down connecting pathways to associated concepts. Associations that have been encountered more frequently in the past are likely to be stronger and are represented in associative network models by pathways through which excitation can spread more quickly. Once sufficient excitation has passed from previously activated concepts to a new concept, so that its level of accumulated excitation surpasses some threshold, that new concept will also be brought to mind.

Model Details

Serial search models assume that excitation traverses one pathway after another until needed concepts are discovered and retrieved from memory. More common are *parallel processing* models, which view excitation as simultaneously traversing all connecting pathways, converging most quickly at concepts that have multiple connections to those already activated. Consequently, thinking about "bacon," "eggs," and "juice" is more likely to activate "breakfast" than might any of those concepts alone.

Once activated, a concept retains excitation as long as it receives attention, after which activation declines as excitation flows away. Because this decay in activation takes time, however, a concept may retain an

elevated level of residual excitation, even after passing from thought. Consequently, concepts that have been thought about recently may be primed, and require relatively little excitation to achieve activation. Inhibitory processes are also sometimes posited, to further control the number and relevance of concepts activated at one time. As they have been refined, associative network models have become increasingly complex, mathematical, and tied to neurological mechanisms involved in learning and memory.

Donal E. Carlston

See also Accessibility; Memory; Priming

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ATTACHMENT STYLES

The concept of attachment was introduced into psychiatry and psychology by John Bowlby, a British psychoanalyst whose major books appeared between 1969 and 1980. Like many psychoanalysts, beginning with Sigmund Freud, Bowlby was interested in the early childhood roots of later personality patterns, including psychological disorders. But instead of focusing on imagined instincts, such as eros (sex) and thanatos (aggression), or sex and aggression, as Freud did, Bowlby focused primarily on the natural dependence of infants and children on their primary caregivers for protection, care, comfort, and emotional support. He noticed, as many informal observers have noticed throughout history, that infants become emotionally attached to their caregivers; look to them for comfort and support in times of stress, threat, need, or pain; and display greater curiosity, courage, and sociability when safely in the presence of these attachment figures. The tendency of human infants to become emotionally attached to their caregivers, a phenomenon that can also be observed in nonhuman primates and many other animals, seemed to Bowlby to be the result of an innate attachment behavioral system.

He was greatly aided in his theoretical work by a talented North American research psychologist, Mary Ainsworth, who did her graduate work on the topics of childhood dependency and security. She concentrated especially on the fact that a child's confidence and courageous exploration of the environment depend on the degree of safety and security provided by caregivers (this is called the *secure base effect*). An important idea in Bowlby and Ainsworth's attachment theory is that effective caregivers provide a safe haven and secure base from which the children in their care can explore the world and acquire life skills.

Because Bowlby and Ainsworth were interested not just in understanding emotional attachments (or *attachment bonds*) but also in using insights from their research to guide clinical assessments and treatment of troubled children and adults; they were especially interested in differences between secure and insecure attachments. When an attachment figure is consistently available and responsive to a child, the child becomes confident that protection, support, and help with emotion regulation will be forthcoming if needed or requested. Under such conditions, a child benefits from what attachment theorists call *felt security*. This feeling that rock-solid support is available allows a child to become more outwardly directed, self-confident, and capable over time of dealing with challenges and stresses autonomously. In contrast, if a child repeatedly discovers that attachment figures are unreliable, self-preoccupied rather than emotionally available, intrusive, punishing, or coolly distant, the child develops an insecure attachment and suffers from a variety of observable difficulties, including pervasive anxiety, unregulated anger, sadness about separation, abandonment, or neglect, and low self-esteem.

One of Ainsworth's major contributions to attachment theory was a laboratory assessment procedure, the "strange situation," which is used to assign a 12- to 18-month-old child to one of three major attachment categories: secure, anxious, or avoidant. Secure infants play comfortably in an unfamiliar strange situation, when in the presence of their previously supportive attachment figure (often mother). They are sociable toward a stranger, and although they become distressed and worried if their attachment figure leaves the room

unexpectedly, they quickly recover, show signs of relief and affection, and play effectively with novel toys following reunion. Researchers, beginning with Ainsworth, have obtained massive evidence that this pattern of behavior results from an attachment figure's reliable availability and responsiveness to the child's needs and bids for help.

Anxiously attached children, in contrast, are vigilant concerning their attachment figure's attentiveness and responsiveness. They become extremely upset about unexpected separations, and most characteristically, continue to be upset and angry even when their attachment figure returns to the room, a pattern of behavior that interferes with normal exploration and effective emotion regulation. Anxious attachment has been found, in extensive home observations, to result from attachment-figure unavailability, intrusiveness, unpredictability, and periods of neglect.

Children classified as avoidant in the strange situation tend not to pay attention to their attachment figure, sometimes seem more favorable toward a friendly stranger than to their own attachment figure, remain quiet during unexpected separations, and are cool and ignoring toward their attachment figure upon reunion. This pattern of behavior, which is thought to involve intentional deactivation and inhibition of natural behavioral tendencies, is accompanied by a high heart rate, indicating that the outward coolness is not matched, at least in young children, by true lack of concern. The avoidant pattern of behavior in childhood is predictable from caregiver behavior that is also cool, distant, rejecting, or punishing.

Years after Ainsworth identified these three patterns of behavior, Mary Main and her colleagues found that in more troubled samples there is often a fourth kind of child behavior, which they called *disorganized* or *disoriented*. In the strange situation, a disorganized child approaches his or her mother oddly during reunion episodes, for example, veering off at an angle and hiding behind a chair or lying facedown on the floor rather than seeking to be picked up. These unusual behaviors seem to be related to the mother's own unresolved memories and feelings about attachment-related losses or traumas. Mothers of disorganized children are more likely than other mothers to have been abused, to be drug abusers, or to be living under unstable conditions (e.g., with boyfriends who come and go or are abusive toward the mother or her child).

Between 1980 and the present, hundreds of studies of childhood attachment have been conducted, and together they indicate that early attachment experiences cast a long shadow as a child grows older. The effects can be seen in preschool interactions with both teachers and peers; in later self-concept, emotions, and attitudes; and in interpersonal relationships all through life. Hence, many interventions have been proposed and studied in an effort to inform parents about the importance of emotional availability and responsiveness, and the needs of children for a safe haven and secure base as they work to develop their social skills, cognitive capacities, and emotion-regulation abilities.

This research has provided a foundation for the study of attachment patterns in subsequent adolescent and adult relationships. In the late 1980s, Main and her students developed the Adult Attachment Interview, which can be used to classify adults' attachment patterns. Many studies have subsequently shown that these patterns predict the attachment patterns of the interviewed adult's children and that the form of the influence is "like fosters like": Secure parents tend to rear secure children, anxious parents to rear anxious children, and avoidant parents to rear avoidant children. Parents who are particularly troubled and have disorganized mental representations of prior attachments and losses tend to have children with disorganized attachment patterns. Although one might suspect that the continuity is attributable to shared genes rather than social experiences, research so far suggests otherwise.

Also in the late 1980s, social psychologists, beginning with Cindy Hazan and Phillip Shaver, developed questionnaire measures of attachment style in adult relationships. Since then, many other researchers, including Mario Mikulincer, have conducted hundreds of studies mapping the emotion-regulation strategies and relational behaviors of people with different attachment styles. This research is currently being extended to studies involving physiological markers (e.g., the stress hormone cortisol) and patterns of brain activation. Moreover, what Bowlby called the attachment behavioral system has been linked to the functioning of other innate behavioral systems, such as caregiving, exploration, and sex, with results that are being applied clinically in individual and couples therapy. Today, Bowlby and Ainsworth's concept of attachment has become central in all areas of psychology, and their theory's influence shows no sign of waning.

Phillip R. Shaver
Mario Mikulincer

See also Anxiety; Attitude Formation; Self-Concept

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ATTACHMENT THEORY

Definition

An *attachment* refers to the strong emotional bond that exists between an infant and his or her caretaker. The theory of attachment is designed to explain the evolution of that bond, its development, and its implications for human experience and relationships across the life course. Although attachment theory has primarily been a theory of child development, since the 1980s, the theory has had a large impact on social psychological theories of close relationships, emotion regulation, and personality.

History and Background

Attachment theory was originally developed by John Bowlby, a British psychoanalyst who was attempting to understand why infants experience intense distress when separated from their parents. Bowlby noticed that separated infants would go to extraordinary lengths (e.g., crying, clinging, frantically searching) to either prevent separation from their parents or to reestablish contact with a missing parent. At the time, psychoanalytic writers held that these behaviors were expressions of immature defense mechanisms that were operating to repress emotional pain, but Bowlby observed that such expressions may serve an evolutionary function.

Drawing on evolutionary theory, Bowlby postulated that behaviors such as crying and searching were adaptive responses to separation from a primary attachment figure—someone who provides support, protection, and care. Because human infants, like other mammalian infants, cannot feed or protect themselves, they are dependent upon the care and protection of older and stronger adults. Bowlby argued that, over the course of human evolution, infants who were able to maintain proximity to an attachment figure (i.e., by looking cute or by expressing in attachment behaviors) would be more likely to survive to a reproductive age. According to Bowlby, a motivational-control system, what he called the *attachment behavioral system,* was gradually crafted by natural selection to help the child regulate physical proximity to an attachment figure.

The attachment behavior system is an important concept in attachment theory because it provides the conceptual link between evolutionary models of human development and modern theories on emotion regulation and personality. According to Bowlby, the attachment system essentially "asks" the following question: Is the attachment figure nearby, accessible, and attentive? If the child perceives the answer to this question to be "yes," he or she feels loved, secure, and confident, and, behaviorally, is likely to explore his or her environment, play with others, and be sociable. If, however, the child perceives the answer to this question to be "no," the child experiences anxiety and, behaviorally, is likely to exhibit attachment behaviors ranging from a simple visual search for the parent to active following and vocal signaling. These behaviors continue until either the child is able to reestablish a desirable level of physical or psychological proximity to the attachment figure, or until the child "wears down," as may happen in the context of a prolonged separation or loss. In such cases, Bowlby believed that the child may develop symptoms of depression.

Individual Differences in Infant Attachment Patterns

Although Bowlby believed that his theory captured the way attachment operates in most children, he recognized that there are individual differences. Some children, for example, may be more likely to view their parents as inaccessible or distant, perhaps because their parents have not been consistently available in the past. However, it was not until Bowlby's colleague, Mary Ainsworth, began to study infant–parent separations that individual differences in attachment were incorporated formally into attachment theory. Ainsworth and her students developed a technique called the "strange

situation"—a laboratory paradigm for studying infant–parent attachment. In the strange situation, 12-month-old infants and their parents are brought to the laboratory and are separated from one another and then reunited. In the strange situation, most children (i.e., about 60%) behave in the way implied by Bowlby's "normative" understanding of attachment. Specifically, they become upset when the parent leaves the room, but when he or she returns, they actively seek the parent and are easily comforted by him or her. Children who exhibit this pattern of behavior are often called "secure." Other children (about 20% or less) are ill-at-ease initially and, upon separation, become extremely distressed. Importantly, when reunited with their parents, these children have a difficult time being soothed and often exhibit conflicting behaviors that suggest they want to be comforted but that they also want to "punish" the parent for leaving. These children are often called "anxious-resistant." The third pattern of attachment that Ainsworth and her colleagues documented is called "avoidant." Avoidant children (about 20%) don't appear too distressed by the separation and, upon reunion, actively avoid seeking contact with their parent, sometimes turning their attention to play objects on the laboratory floor.

Ainsworth's work was important for at least three reasons. First, she provided one of the first empirical demonstrations of how attachment behavior is patterned in both safe and frightening contexts. Second, she provided the first empirical taxonomy of individual differences in infant attachment patterns. According to her research, at least three types of children exist: those who are secure in their relationship with their parents, those who are anxious-resistant, and those who are anxious-avoidant. Finally, she demonstrated that these individual differences were correlated with infant–parent interactions in the home during the first year of life. Children who appear secure in the strange situation, for example, tend to have parents who are responsive to their needs. Children who appear insecure in the strange situation (i.e., anxious-resistant or anxious-avoidant) often have parents who are insensitive to their needs, or inconsistent or rejecting in the care they provide.

Attachment in Adult Romantic Relationships

Although Bowlby was primarily focused on understanding the nature of the infant–caregiver relationship, he believed that attachment played a role in human experience across the life course. It was not until the mid-1980s, however, that psychologists began to take seriously the possibility that attachment may play a role in adulthood. Cindy Hazan and Phil Shaver were two of the first researchers to explore Bowlby's ideas in the context of romantic relationships. According to Hazan and Shaver, the emotional bond that develops between adult romantic partners is partly a function of the same motivational system— the attachment behavioral system—that gives rise to the emotional bond between infants and their caregivers. Hazan and Shaver noted that infants and caregivers and adult romantic partners share the following features:

- Both feel safe when the other is nearby and responsive.
- Both engage in close, intimate, bodily contact.
- Both feel insecure when the other is inaccessible.
- Both share discoveries with one another.
- Both play with one another's facial features and exhibit a mutual fascination and preoccupation with one another.
- Both engage in "baby talk" or "motherese" (i.e., a high-pitched, idiosyncratic language that involves "made up" words that only the couple understands).

On the basis of these parallels, Hazan and Shaver argued that adult romantic relationships, like infant–caregiver relationships, are attachments, and that romantic love is a property of the attachment behavioral system, as well as the motivational systems that give rise to caregiving and sexuality.

Three Implications of Adult Attachment Theory

The idea that romantic relationships may be attachment relationships has had a profound influence on modern research on close relationships. There are at least three critical implications of this idea. First, if adult romantic relationships are attachment relationships, then we should observe the same kinds of individual differences in adult relationships that Ainsworth observed in infant–caregiver relationships. Second, if adult romantic relationships are attachment relationships, then the way adult relationships "work" should be similar to the way infant–caregiver relationships work. Third, whether an adult is secure or insecure in his or her adult relationships may be a partial reflection of his or her attachment experiences in early childhood.

Do We Observe the Same Kinds of Attachment Patterns Among Adults That We Observe Among Children?

If adult romantic relationships are attachment relationships, then the same kinds of individual differences that Ainsworth observed in infant–caregiver relationships should be observed in adult relationships. Some adults, for example, may be expected to be secure in their close relationships—feeling confident that their partners will be there for them when needed and being open to depending on others and having others depend on them. Other adults, in contrast, will be expected to be insecure in their relationships. For example, some insecure adults may be anxious-resistant: They worry that others may not love them completely, and they may be easily frustrated or angered when their attachment needs go unmet. Others may be avoidant: They may appear not to care too much about close relationships and may prefer not to be too dependent upon other people or to have others be too dependent upon them.

The earliest research on adult attachment involved studying the association between individual differences in adult attachment and the way people think about their relationships and their memories for what their relationships with their parents are like. In 1987, Hazan and Shaver developed a simple questionnaire to measure these individual differences. (These individual differences are often referred to as "attachment styles," "attachment patterns," "attachment orientations," or "differences in the organization of the attachment system.") In short, Hazan and Shaver asked research subjects to read three paragraphs and indicate which paragraph best characterized the way they think, feel, and behave in close relationships. Paragraph A described discomfort and nervousness in being close to others, as well as difficulty with trust and intimacy; paragraph B depicted relative ease with closeness to and mutual dependence with others; and paragraph C indicated a perception that others are hesitant to get close as desired and that a partner doesn't love them or likely won't want to stay with them.

Hazan and Shaver found that the number of people endorsing each of these descriptions was similar to the number of children classified as secure, anxious, or avoidant in infancy. In other words, about 60% of adults classified themselves as secure (paragraph B), about 20% described themselves as avoidant (paragraph A), and about 20% described themselves as anxious-resistant (paragraph C).

Do Adult Romantic Relationships "Work" in the Same Way That Infant–Caregiver Relationships Work?

If adult romantic relationships are attachment relationships, then the way adult relationships "work" should be similar to the way infant–caregiver relationships work. For the most part, research suggests that adult romantic relationships function in ways that are similar to infant–caregiver relationships. Naturalistic research on adults separating from their partners at an airport demonstrated that behaviors indicative of attachment, such as crying and clinging, were evident and that the way people expressed those behaviors was related to their attachment style. For example, while separating couples generally showed more attachment behavior than nonseparating couples, people with avoidant attachment styles showed much less attachment behavior.

There is also research that suggests that the same kinds of features that mothers desire in their babies are also desired by adults seeking a romantic partner. Studies conducted in numerous cultures suggest that the secure pattern of attachment in infancy is universally considered the most desirable pattern by mothers. Adults seeking long-term relationships identify responsive caregiving qualities, such as attentiveness, warmth, and sensitivity, as most attractive in potential dating partners. Despite the attractiveness of secure qualities, however, not all adults are paired with secure partners. Some evidence suggests that people end up in relationships with partners who confirm their existing beliefs about attachment relationships, even if those beliefs are negative.

Are Attachment Patterns Stable From Infancy to Adulthood?

An important implication of attachment theory is that whether an adult is secure or insecure in his or her adult relationships may be a partial reflection of his or her attachment experiences in early childhood. Bowlby believed that the mental representations or working models (i.e., expectations, beliefs, "rules," or "scripts" for behaving and thinking) that a child holds regarding relationships are a function of his or her caregiving experiences. For example, a secure child tends to believe that others will be there for him or her because previous experiences have led him or her to this conclusion. Once a child has developed such expectations, he or she will tend to seek out relational

experiences that are consistent with those expectations and perceive others in a way that is colored by those beliefs. According to Bowlby, this kind of process should promote continuity in attachment patterns over the life course, although it is possible that a person's attachment pattern will change if his or her relational experiences are inconsistent with his or her expectations. In short, if we assume that adult relationships are attachment relationships, it is possible that children who are secure as children will grow up to be secure in their romantic relationships.

Research shows that there is a modest degree of overlap between how secure people feel with their mothers, for example, and how secure they feel with their romantic partners. For example, among people who are securely attached to their mothers, over 65% of them are likely to feel secure with their romantic partners too. There is also evidence suggesting that people who are secure as children are more likely to grow up to become secure adults. Of secure adults, approximately 70% of them were classified as secure when they were 12 months of age in the strange situation. Taken together, these data suggest that there is a moderate degree of stability in attachment styles from infancy to adulthood, but that there is also plenty of room for people's ongoing experiences to shape their security.

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See also Attachment Styles; Close Relationships; Companionate Love; Ethology; Evolutionary Psychology; Love

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ATTENTION

Definition

Attention refers to a wide variety of phenomena, including arousal, alertness, consciousness, and awareness. In general, however, attention is defined as both a process of concentration, such as trying to remember, understand, or search for information, and a mental resource that has limited capacity. Attention is selective in that it involves focusing on a certain stimulus to the exclusion of others.

Focus of Attention

The focus of attention may be an external stimulus (e.g., a telephone, another person, or traffic) or an internal mental event (e.g., thinking about your day or trying to recall a name or past event). Stimuli that stand out, that is, are more salient, tend to capture a person's attention. The salience of a stimulus depends on the larger social context. Stimuli that are unusual (e.g., a woman in a group of men), personally significant (e.g., hearing your name), or that dominate the visual (e.g., standing in front of you) or auditory field (e.g., a loud voice) are generally more salient.

Types of Attention

Attention processes differ in the degree to which they are automatic or controlled. Input attention processes, which are the processes that involve getting information from the environment into our cognitive systems, tend to be reflexive, quick, and automatic. Such processes include alertness and arousal, the orienting response, and spotlight attention. Alertness and arousal are the most basic processes; they involve being awake and able to respond to information. The orienting response is the reflexive turning of your head and eyes toward a stimulus that is unexpected. Spotlight attention involves shifting your attention mentally (rather than physically shifting your head and eyes) in an effort to focus on stimuli.

Controlled attention involves deliberate, voluntary efforts to think and perform tasks. During controlled attention processes, we are consciously aware of our efforts to pay attention to certain stimuli. Controlled attention processes are thus slower than automatic attention processes. For example, when you learn to drive a car, you must pay close attention to each step of the driving process. Controlled attention processes consume mental resources. It is thus difficult to engage in several controlled processes at the same time, for example, to talk on the telephone while learning to drive a car.

Automatic attention processes occur more quickly and with less effort. They are often unintentional and require few cognitive resources. For example, after learning to drive a car, you perform many of the actions necessary to drive without being consciously aware of each one. A similar kind of automatic attention may occur when one encounters a member of an

ethnic minority group and the stereotype of the group seems to come to mind automatically. In other words, the stereotype comes to mind quickly, unintentionally, and without effort.

Social judgments and behaviors usually vary in the degree to which they involve controlled or automatic attention. For example, the stereotype of a group may seem to come to mind automatically when one encounters a member of the group. However, stereotypes appear to come to mind only when one has enough mental resources to attend to them. Bringing to mind the stereotype of a group may also lead one to pay attention in a more deliberate and controlled way to other information about the appropriateness of the stereotype.

Causes and Consequences of Automatic and Controlled Attention

With a great deal of practice, many mental processes may become automatic. For example, typing, riding a bike, driving a car, and identifying the meaning of words all require attention at first. However, repeated exposure or practice may reduce the amount of attention needed to perform these tasks. Ultimately, highly practiced tasks may become automatic. That is, they can be performed with little conscious awareness and with few or no cognitive resources.

Being able to think and do things automatically seems highly desirable, because fewer cognitive resources are used, and thus people can pay greater attention to other stimuli. However, automaticity can sometimes be problematic. Automatic processes are hard to unlearn; undesirable mental processes or behavioral patterns may thus be difficult to change. For example, prejudice may occur relatively automatically, because people have come to associate negative characteristics with a certain ethnic group. Another undesirable consequence of automaticity is that the lack of conscious processing may result in errors. For example, people may go through the motions of driving a car without paying full attention and thus fail to notice a red light.

Implications

Researchers can determine the extent to which social judgment processes, such as stereotyping, are automatic or controlled by examining whether the process is disrupted as a result of increased demands on attention. Research participants may be asked to perform a social judgment task under high cognitive load, for example, while trying to keep in mind a long series of numbers. If the judgment process is disrupted (the judgment is more difficult to make) when cognitive demands are increased, then the process is considered to be controlled. If the social judgment process is not disrupted, even when other cognitive demands are high, then the process is considered to be automatic. For example, stereotypes are less likely to come to mind when cognitive demands are high, indicating that stereotypes do not come to mind in a completely automatic way. However, after stereotypes come to mind, people who are under high cognitive load are more likely to use them, indicating that stereotype use is a controlled process.

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See also Automatic Processes; Controlled Processes

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ATTITUDE–BEHAVIOR CONSISTENCY

Definition

The study of attitude–behavior consistency concerns the degree to which people's attitudes (opinions) predict their behavior (actions). Attitude–behavior consistency exists when there is a strong relation between opinions and actions. For example, a person with a positive attitude toward protecting the environment who recycles paper and bottles shows high attitude–behavior consistency. The study of attitude–behavior consistency is important because much of the usefulness of the attitude concept is derived from the idea that people's opinions help guide their actions.

Background

Common sense would dictate that attitudes should predict behavior. It seems sensible to predict that a student who strongly supports saving endangered animals will make an annual donation to the World Wildlife Fund. However, is the link between attitudes and behavior this simple?

To answer this question, it is helpful to consider some early research on this topic. Initial research on attitude–behavior consistency was conducted in the early 1930s. At this time, a college professor named Richard LaPiere was traveling across America with a young Chinese couple. At the time, there was widespread anti-Asian prejudice in America. As a result of this prejudice, LaPiere was concerned whether he and his traveling companions would be refused service in hotels and restaurants. Much to his surprise, only once (in over 250 establishments) were they not served. A few months after the completion of the journey, LaPiere sent a letter to each of the visited establishments and asked whether they would serve Chinese visitors. Of the establishments that replied, only one indicated that it would serve such a customer. While there are a number of problems with LaPiere's study (for instance, there is no guarantee that the person who answered the letter was the same person who served LaPiere and his friends), the study was taken as evidence that that people's behavior might not necessarily follow from their attitudes.

By the late 1960s, a number of experiments had examined the relation between attitudes and behavior. In 1969, Allan Wicker reviewed the findings of these studies. He reached a rather sobering conclusion: Attitudes were a relatively poor predictor of behavior. Wicker's conclusion contributed to a "crisis of confidence" in social psychology and led a number of researchers to question the usefulness of the attitude concept. It was argued that, if attitudes do not guide actions, then the construct is of limited value.

When Do Attitudes Influence Behavior?

Attitude researchers responded to this criticism by devoting greater attention to the study of *when* attitudes predict behavior. In the past 30 years, research findings have led to a more optimistic conclusion: Attitudes do predict behavior, under certain conditions. What are some of these conditions?

First, attitudes do a better job of predicting behavior when both concepts are measured in a similar way. Returning to LaPiere's study, his measure of attitude asked establishments to indicate whether they would serve someone of the Chinese race. This measure of attitude is quite broad in comparison to the measure of behavior, which involved service being offered to a highly educated, well-dressed Chinese couple accompanied by an American college professor. Had LaPiere's attitude measure been more specific (e.g., if it had read, "Would you serve a highly educated, well-dressed Chinese couple accompanied by an American college professor?"), there would have been greater consistency between attitudes and behavior.

Second, attitude–behavior consistency varies depending upon the topic being studied. In some areas, attitudes do an excellent job of predicting behavior, whereas in other areas they do not. At one extreme, a person's attitude toward a particular political candidate does a very good job of predicting whether or not they vote for the candidate. Not surprisingly, people tend to vote for politicians they like. At the other extreme, researchers have found a low degree of consistency between a person's attitude toward blood donation and the behavior of donating blood. Perhaps it is not surprising that this is a domain where there is a low relation between attitudes and behavior. It may be that a low relation arises because of other factors that people see as more important than their positive attitude (they may be extremely squeamish about needles), or because the behavior of donating blood may be much more difficult to enact than the simple expression of one's attitude through a behavior like voting.

Third, the consistency between attitudes and behavior depends upon the "strength" of the attitude. As noted elsewhere in this encyclopedia, attitudes differ in their strength. Some of people's attitudes are very important to them, whereas others are not. A number of studies have demonstrated that strong attitudes are more likely to predict behavior than are weak attitudes. For instance, Rob Holland and colleagues conducted a study in which they asked participants to indicate the favorability and strength of their attitude toward the organization Greenpeace. One week later, as part of a different experiment, these same people were given the opportunity to donate money to Greenpeace. Holland and colleagues found that when participants held strong opinions about Greenpeace, the favorability of their attitude predicted the amount of money they donated one week later.

Among people with weak attitudes toward Greenpeace, how much they liked the organization did not predict their later behavior.

Fourth, the consistency between attitudes and behavior is affected by differences across people. For example, research on the personality factor called "self-monitoring" (which reflects differences across people in how they vary their behavior across social situations) has found that the relation between attitudes and behavior is stronger for low self-monitors than high self-monitors. Further, the likelihood of a person's attitudes influencing their behavior is affected by their age. A number of studies have found that university students show lower attitude–behavior relations compared to adults. This difference is thought to occur because university students tend to have less-clear attitudes compared to older individuals.

How Do Attitudes Influence Behavior?

In addition to understanding *when* attitudes predict behavior, social psychologists have developed a number of models to explain *how* attitudes predict behavior. Two important models are the theory of planned behavior and the MODE model.

The Theory of Planned Behavior

The theory of planned behavior was developed by Icek Azjen. As its name suggests, the theory of planned behavior was developed to predict deliberative and thoughtful behavior. According to this model, the most immediate predictor (or determinant) of a person's behavior is his or her *intention*. Put simply, if you intend to recycle glass bottles, you are likely to engage in this behavior. Within the theory of planned behavior, a person's intentions are determined by three factors: attitudes, subjective norms, and perceived behavioral control. The *attitude* component refers to the individual's attitude toward the behavior—whether the person thinks that performing the behavior is good or bad. If you think that recycling glass is good, you should have a positive intention to carry out this behavior. *Subjective norms* refer to people's beliefs about how other people who are important to them view the relevant behavior. If your family and close friends believe that recycling glass is good, and you are motivated to comply with their expectations, you should have a positive intention to carry out this behavior.

Of course, people's behavior is also influenced by whether they feel they can perform the behavior. For example, if an individual wanted to eat a healthier diet, a positive attitude and positive subjective norms are unlikely to produce the desired behavior change if the person is unable to restrain him- or herself from eating French fries and chocolates. As a result, the Theory of Planned Behavior includes the idea that behavior is affected by whether people believe that they can perform the relevant behavior. This is captured by the concept of *perceived behavioral control*.

The MODE Model

Not all behavior is planned and deliberative. Quite often we act spontaneously, without consciously thinking of what we intend to do. When our behavior is spontaneous, the theory of planned behavior may not reflect how we decide to act. To help understand how attitudes influence spontaneous behavior, Russell Fazio developed the MODE model of attitude–behavior relations. MODE refers to *M*otivation and *O*pportunity as *DE*terminants of behavior. The MODE model suggests that if people are motivated *and* have the opportunity, they can base their behavior on a planned and deliberative consideration of available information. However, when either the motivation or the opportunity to make a reasoned decision is low, only strong attitudes will predict behavior.

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See also Attitudes; Attitude Strength

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ATTITUDE CHANGE

Definition

Attitudes are general evaluations of objects, ideas, and people one encounters throughout one's life (e.g., "capital punishment is bad"). Attitudes are important

because they can guide thought, behavior, and feelings. Attitude change occurs anytime an attitude is modified. Thus, change occurs when a person goes from being positive to negative, from slightly positive to very positive, or from having no attitude to having one. Because of the functional value of attitudes, the processes that change them have been a major focus throughout the history of social psychology.

Dual Process Approach

According to dual process models of attitude change, research on this topic can be organized according to two general types of processes: (1) those that occur when one puts forth relatively little cognitive effort, and (2) those that occur with relatively high cognitive effort. The amount of thought and effort used in any given situation is determined by many variables, all of which affect one's motivation or ability to think. Some examples include one's personal preference for engaging in complex thought, the personal relevance of the attitude object, and the amount of distraction present while attempting to think. Furthermore, both high- and low-effort processes can operate whether or not a persuasive message is presented.

Low-Effort Processes

When factors keep one's motivation and/or ability to think low (such as when the issue is not personally relevant or there are many distractions present), attitude change can be produced by a variety of low-effort processes. These include some largely automatic associative processes as well as simple inferential processes.

Associative Processes

Classical Conditioning. One way to produce attitude change in the absence of effortful thought is to repeatedly associate an initially neutral attitude object with another stimulus that already possesses a positive or negative meaning. For example, imagine that every time you saw your uncle as a child he took you to the zoo. Assuming you enjoy going to the zoo, you will likely start to feel more positively toward your uncle. If, instead, every time you saw him he took you to the doctor to get your immunization shots, the opposite result is more likely. Although research on this process has demonstrated that it is most effective for previously neutral stimuli (such as novel words or

objects), significant attitude change has also been found for positive and negative attitude objects as well. One series of studies found that repeatedly pairing words related to the self (e.g., *I and me*) with positive stimuli caused significant increases in a later measure of participants' self-esteem. Thus, continually associating an attitude object or message with something you already like (e.g., an attractive source) can lead to positive attitudes.

Affective Priming. Another process that involves the association of two stimuli is called affective priming. In this process a positive or negative stimulus (e.g., words such as *love* or *murder*) is encountered just prior to a novel attitude object (rather than following it, as occurs in classical conditioning). When this happens, one's reaction to the positive or negative stimulus will come to color the evaluation of the new object, producing attitude change. Imagine, for instance, that you are at an unfamiliar restaurant and are about to try a totally new dish. If this meal is brought to you by a very attractive waiter or waitress, your positive reaction toward this server is likely to influence your initial attitude toward the food. Although this attitude may change as you interact with the attitude object (i.e., when you eat the food), the initial positive evaluation will make it more likely that your final attitude is also positive.

Mere Exposure. In both of the processes discussed so far, an attitude is altered by the attitude object's association with a positive or negative stimulus. In contrast, research on the mere exposure effect has found that repeated exposure to an object in the absence of association can also change attitudes. Quite simply, this process requires only that one is repeatedly exposed to an attitude object. When this occurs, the attitude toward the object becomes more positive; possibly due to the fact that the object has actually become associated with the absence of anything negative. The strongest mere exposure effects occur when the repeated attitude object is low in meaning (e.g., novel) or is presented outside of conscious awareness. One intriguing implication of this phenomenon is that mere exposure might help to account for the preference a newborn infant shows for his or her mother's voice. As the child develops in the womb, one stimulus that is repeated every day is the mother's voice. Thus, mere exposure to this stimulus should cause the child's attitude toward the voice (and subsequently its source) to become positive, enhancing the mother–child bond.

Inferential Processes

Balance. One simple inferential process of attitude change involves cognitive balance. Stated simply, balance is achieved when people agree with those they like and disagree with those they dislike. When this is not the case, one experiences a state of unease, and attitudes are likely to shift to bring the system into balance. For instance, suppose you discover that you and your worst enemy both love the same band. When this occurs, you are likely to experience an uncomfortable state of imbalance, and to rectify this inconsistency, one of your attitudes will likely change. Thus, upon learning the information, you may come to find your previous enemy much less distasteful or, alternatively, feel less positively toward the band.

Attribution. At its most general level, attribution concerns the inferences that people make about themselves and others after witnessing a behavior and the situation in which it occurred. Although this topic is highly studied in and of itself, its research has also outlined a number of processes that can create low-effort attitude change. One attributional process, which occurs when people are not well attuned to their own beliefs, is self-perception. In this process, people infer their own attitudes from their behaviors, just as they would for someone else. Thus, people can infer that if they are eating a peach or watching a pro-peach advertisement, they must like peaches, even if they hadn't considered this possibility before. When this inference is made, it produces attitude change, making their attitude toward peaches more positive.

In a related phenomenon, called the overjustification effect, people come to infer that they dislike a previously enjoyed activity when they are provided with overly sufficient rewards for engaging in it. Research has demonstrated this effect by providing children with candy or other rewards for engaging in an activity they had previously performed merely for its own sake (e.g., coloring). When this happens, the children infer that they were performing the activity for the reward, not for its mere enjoyment, and their attitude toward engaging in the behavior becomes less positive.

Heuristics. One final process through which low-effort attitude change can occur is through the use of heuristics, or simple decision rules based on prior experiences or observations. Although there are countless heuristics, some examples are "experts are usually correct" and "bigger is better." When motivation and ability to think are low, people can use simple rules like these to form evaluations. For instance, in deciding what new music is good, someone might simply walk over to the bestseller section at the local music store and survey the current top selections. By basing their opinions on the rule that "the majority is usually right," they establish positive attitudes toward those artists they discover in this section and avoid more effortful (and costly) processes such as critically listening to each performer's music. Or, instead of thinking carefully about all of the arguments in a persuasive message about a new pain reliever, a person might simply count the arguments and reason, "the more arguments, the better."

High-Effort Processes

There are also attitude change processes that require a greater use of mental resources. When a person is motivated and able to invest high effort in making a judgment about an issue or object, attitude change can occur due to characteristics of his or her thoughts (e.g., whether the thoughts are favorable or unfavorable), his or her estimation that good or bad outcomes will be tied to the attitude object, or the person's realization that he or she holds conflicting beliefs about a set of attitude objects.

Cognitive Responses. When people's attitudes change through the use of high cognitive effort, some of the most important aspects to consider are their actual thoughts (cognitive responses) toward the attitude object and any persuasive message that is received on the topic. Although there are a number of different aspects to consider, three components of thought have proven especially important in producing change. The first, and most obvious, is whether thoughts about the attitude object or message are largely favorable or unfavorable. By examining the ratio of positive to negative thoughts, the likely amount of attitude change produced can be approximated. If there is a greater proportion of favorable than unfavorable thoughts, your attitude will change in a positive direction. The opposite is true if there is a greater proportion of negative thoughts. A second important dimension concerns how much thinking is done. For example, the more positive thoughts one has about an attitude object, the more favorable the attitudes will be. The third, and final, aspect of thought

is related to confidence. When thinking about an attitude object or persuasive message, people will have varying confidence in each of their discrete thoughts. To the extent that they are highly confident in a thought, it will have a great impact on their final attitude. Those thoughts that are associated with low confidence, however, will play a relatively minor role in any attitude change. Many things can affect one's confidence in a thought, such as how easily it comes to mind.

Although these three factors are easy to imagine operating in traditional persuasion settings (e.g., when you view an advertisement for some commercial product), they also influence attitude change in the absence of any persuasive message. One way in which this occurs is when people role play, or imagine what someone else would think about an issue. Imagine, for instance, that you enjoy smoking cigarettes. Now, generate as many reasons as you can to stop smoking. Because of the cognitive responses you've created by engaging in this process, you may change your own attitudes toward smoking. As you can probably guess, the more thought and effort you put into the role play, the more likely it is that attitude change will occur. If you did put a great deal of effort into the exercise, then you've probably created a number of negative thoughts about smoking tobacco. In this case, you might expect that your attitude has become more negative toward smoking. This may or may not be true, however, depending on the confidence you have in the thoughts that were produced. If you generated a large number of antismoking thoughts but had low confidence in the validity of each one, then they would have very little impact on your attitude, especially if they were countered by some very positive thoughts that were held with high confidence.

Expectancy-Value Processes. According to the reasoned action theory, attitudes are created through an individual's assessment of how likely it is that a given attitude object will be associated with positive (or negative) consequences or values. The more likely it is that an attitude object (e.g., a car) is associated with a positive consequence (being able to travel to work) or value (staying safe), the more positive the attitude will be. Although some researchers have argued that all attitudes are determined in this manner, it is most likely that this process only occurs when people put sufficient effort into considering all of the possible consequences and values that may be tied to a given attitude object. Interestingly, when people engage in this process of effortful consideration of an object or message, they

may actually change their own attitude. If, for instance, you recently purchased a sport utility vehicle merely for the image it provides, your attitude toward it may become more negative if you are prompted to consider all of the consequences (e.g., very expensive fuel bills) and values (e.g., promoting U.S. independence from foreign oil supplies) that are associated with it.

Dissonance Processes. According to cognitive dissonance theory, people are motivated to hold consistent attitudes. Because of this motivation for consistency, people experience unpleasant physiological arousal (an increase in heart rate, sweaty palms, etc.) when they willingly engage in a behavior that is counter to their beliefs or are made aware that they possess two or more conflicting attitudes. This experience then motivates them to change their attitudes so that the unpleasant feelings can be eliminated. When people make a choice from among alternatives, dissonance processes will often produce attitude change. Research has shown that once people make a choice, attitudes toward each of the potential choices will change such that the chosen alternative will be viewed more positively and the nonchosen alternative(s) will be viewed more negatively than prior to the choice. This reduces the aversive dissonance experience that would have occurred if they still felt very positively toward an unselected option. If you've ever bought a product that turned out to have flaws, then you've probably experienced dissonance. When a situation like this occurs, your behavior (purchasing the product) is not consistent with your beliefs about the product (it is flawed), and this causes dissonance. To resolve this dissonance, you must change either your attitude toward the product (and decide that it is actually good) or your behavior (return it to the store).

Attitude Strength

One of the most important characteristics of an attitude is its strength. Attitude strength is associated with an attitude's persistence, resistance to change, and ability to predict behavior. The stronger an attitude, the more it exhibits these characteristics. As you might expect, attitudes produced by high-effort cognitive processes are stronger than those produced by low-effort processes. Because they are the result of greater cognitive effort, these attitudes are often based on more consistent information, are supported by a more developed knowledge structure (e.g., related beliefs and values), and are held with greater certainty than are attitudes

produced by a low-effort process. If, for instance, your recent car purchase was based on months of research and test-drives, then you are likely to have a whole host of information that supports your positive attitude toward the vehicle. This associated information will then serve to buoy the attitude, allowing it to persist over the life of the vehicle and resist change (e.g., following negative experiences like breakdowns). If your attitude was instead based on a low-effort process (e.g., a heuristic rule, "if it looks good, it is good"), then this attitude may be easily changed when you experience negative events and become motivated to think critically about the attitude object.

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See also Attribution Theory; Balance Theory; Cognitive Dissonance Theory; Elaboration Likelihood Model; Inference; Need for Cognition; Overjustification Effect; Priming; Reasoned Action Theory; Self-Perception Theory

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ATTITUDE FORMATION

Definition

An attitude is a general and lasting positive or negative opinion or feeling about some person, object, or issue. We form attitudes through either direct experience or the persuasion of others or the media. Attitudes have three foundations: affect or emotion, behavior, and cognitions. In addition, evidence suggests that attitudes may develop out of psychological needs (motivational foundations), social interactions (social foundations), and genetics (biological foundations), although this last notion is new and controversial.

Emotional Foundations

A key part of an attitude is the affect or emotion associated with the attitude. At a very basic level, we know whether we like or dislike something or find an idea pleasant or unpleasant. For instance, we may say that we know something "in our heart" or have a "gut feeling." In such cases our attitudes have been formed though our emotions rather than through logic or thinking. This can happen through (a) sensory reactions, (b) values, (c) operant/instrumental conditioning, (d) classical conditioning, (e) semantic generalization, (f) evaluative conditioning, or (g) mere exposure.

Sensory Reactions

Any direct experience with an object though seeing, hearing, smelling, tasting, or touching will lead to an immediate evaluative reaction. We are experts at knowing whether we find a certain sensory experience pleasant or unpleasant. For example, immediately upon tasting a new type of candy bar, you know whether you like it or not. This also applies to aesthetic experiences, such as admiring the color or composition of an artwork. We form attitudes about objects immediately upon experiencing them.

Values

Some attitudes come from our larger belief system. We may come to hold certain attitudes because they validate our basic values. Many attitudes come from religious or moral beliefs. For example, for many people their attitudes about abortion, birth control, same-sex marriage, and the death penalty follow from their moral or religious beliefs and are highly emotional issues for them.

Operant Conditioning

Operant or *instrumental conditioning* is when an attitude forms because it has been reinforced through reward or a pleasant experience or discouraged through punishment or an unpleasant experience. For example, a parent might praise a teenager for helping out at an after-school program with little kids. As a result, the teen may develop a positive attitude toward volunteer work. Similarly, many people find that broccoli has a terrible taste, and so they dislike broccoli because of its punishing flavor.

Classical Conditioning

Classical or *Pavlovian conditioning* happens when a new stimulus comes to elicit an emotional reaction

because of its association with a stimulus that already elicits the emotional response. The Russian physiologist Ivan Pavlov took dogs, which naturally salivate to meat powder, and trained them to salivate at the sound of a bell by continually ringing the bell as the meat powder was presented. In humans, some of our attitudes have become conditioned in much the same way. For example, some people have a negative attitude towards "dirty" words. Just the thought of a taboo word will cause some people to blush. The words themselves have come to elicit an emotional reaction because their use is frowned upon in our culture in most contexts.

Semantic Generalization

Not only can we become conditioned to a specific stimulus, but this initial conditioning can generalize or spread to similar stimuli. For example, a bell higher or lower in pitch to the original conditioned sound may elicit the same reaction. In humans, the initial conditioning can spread even to words or concepts similar to the original stimulus. As a result, we can form attitudes about an object or idea without having direct contact with it. When this kind of generalization occurs, the process is called *semantic generalization*. For example, human subjects who have been conditioned to the sound of a bell may also show a response to the sight of a bell or by the spoken word *bell*. Semantic generalization can account for the formation of attitudes, like prejudice, where people have formed an attitude without having direct contact with the object of that attitude.

Evaluative Conditioning

An object need not directly cause us to feel pleasant or unpleasant for us to form an attitude. *Evaluative conditioning* occurs when we form attitudes toward an object or person because our exposure to them coincided with a positive or negative emotion. For example, a couple may come to feel positive toward a particular song that was playing on the radio during their first date. Their positive attitude to the song is a result of its association with the happy experience of a date.

Mere Exposure

Finally, when we see the same object or person over and over, we will generally form a positive attitude toward that object or person. This is true for an object or person we feel neutral or positive about, so long as we are not overexposed to it. For example, many popular styles of clothing seem bizarre at first, but then as we see more of them we may come to accept and even like them.

Behavioral Foundations

Sometimes we form attitudes from our actions. This can happen if we do something before we have an attitude (e.g., going to an art opening of an unknown artist), when we are unsure of our attitudes (e.g., going with a friend to a political rally), or when we are not thinking about what we are doing (mindlessly singing along with a random station on the radio). That is, there are times when just going through the motions can cause us to form an attitude consistent with those actions. In the previous examples, people may come to hate the new artist, support free trade, or like classical music because their actions have led them to engage in these behaviors, which then led to the formation of an attitude. There are at least four lines of evidence that account for how attitudes may form out of actions.

First, self-perception theory suggests that we look to our behavior and figure out our attitude based on what we have done or are doing. Second, cognitive dissonance theory suggests that we strive for consistency between our attitudes and our actions and when the two do not match, we may form a new attitude to coincide with our past actions.

Third, research evidence using the facial feedback hypothesis finds that holding our facial muscles in the pose of an emotion will cause us to experience that emotion, which may then color our opinions. For example, participants who viewed cartoons that were not particularly funny while holding a pen across their teeth—a pose which activates the same muscles involved in smiling—rated the cartoons funnier than subjects who posed with a pen in their mouths, which activated the same muscles involved in frowning. As a result, people may develop positive or negative attitudes toward neutral objects after moving their facial muscles into smiles or frowns, respectively.

Finally, role-playing, such as improvising persuasive arguments, giving personal testimony, taking on another person's perspective, or even play-acting, are all additional ways that people may come to form attitudes based on their behaviors. For example, in an early study, women who were heavy smokers participated in an elaborately staged play where they played

the role of a woman dying of lung cancer. Two weeks later, these women smoked less and held less positive attitudes toward smoking than women who had not been through this role-play procedure.

Cognitive Foundations

The cognitive foundation of attitudes, what might be called beliefs, comes from direct experience with the world or through thinking about the world. Thinking about the world includes any kind of active information processing, such as deliberating, wondering, imagining, and reflecting, as well as through activities such as reading, writing, listening, and talking.

If you believe that insects are dirty and disgusting, then you will probably have the attitude that insects are not food. However, if you read that locusts and other insects are happily eaten in some cultures, then you may come to believe that locusts may not be so bad. Your attitude here comes from thinking about the new facts you read.

Additionally, if the National Centers for Disease Control and Prevention (CDC) says that exposure to ultraviolet light is the most important environmental factor involved in the formation of skin cancers, and you believe that the CDC is a trustworthy expert, then you might logically reason that excessive sun exposure is not a healthy thing. Here your attitude comes from logically reasoning about the world.

Suppose you didn't know how you felt about a topic until you were forced to write an essay for a writing class. This also would be an example of attitude formation through cognition, in this case, organizing your thoughts in preparation to write a coherent essay.

Marianne Miserandino

See also Attitude Change; Cognitive Dissonance Theory; Facial-Feedback Hypothesis; Genetic Influences on Social Behavior; Mere Exposure Effect; Reference Group; Self-Perception Theory; Social Learning

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Attitudes

Definition

Attitudes refer to our overall evaluations of people, groups, and objects in our social world. Reporting an attitude involves making a decision concerning liking versus disliking or favoring versus disfavoring an attitude object. Attitudes are important because they affect both the way we perceive the world and how we behave. Indeed, over 70 years ago, Gordon Allport asserted that the attitude concept is the most indispensable concept in social psychology. That statement remains equally valid today; the study of attitudes remains at the forefront of social psychological research and theory, as illustrated by the number of relevant entries in this encyclopedia. This entry concentrates on three key aspects of attitudes: their content, structure, and function.

The Content of Attitudes

One of the most influential models of attitude content has been the *multicomponent model*. According to this perspective, attitudes are summary evaluations of an object that have affective, cognitive, and behavioral components. The *affective* component of attitudes refers to feelings or emotions associated with an object. Affective responses influence attitudes in a number of ways. First, attitudes are influenced by the emotions that are aroused in a person after exposure to the attitude object. For instance, spiders make some people feel scared, and this negative affective response is likely to produce a negative attitude toward spiders. In addition, feelings influence attitudes via processes such as classical conditioning and mere exposure. Here, the environment repeatedly pairs the object with other stimuli that elicit particular emotions (classical conditioning) or repeated exposure causes the object to seem more familiar and positive over time.

The *cognitive* component of attitudes refers to beliefs, thoughts, and attributes associated with an object. Cognitions have an impact on many types of

attitudes. For example, someone buying a used car is likely to devote considerable attention to its attributes, such as its safety record, gas mileage, and past repair costs. The person's attitude toward the car is likely to be influenced by its positive and negative characteristics. Within the study of intergroup attitudes, stereotypes are beliefs about the attributes possessed by a particular social group. Many studies have revealed that possessing negative stereotypes about a group of people is associated with having a prejudicial attitude toward the group.

Behavioral information is the mental representation of current, past, and future behaviors regarding an attitude object. For instance, research has demonstrated that performing a behavior with evaluative implications influences the favorability of attitudes. In a study by Pablo Briñol and Richard Petty, participants moved their heads in *either* an up-and-down motion (nodding the head in agreement) or a side-to-side motion (shaking the head in disagreement) as they listened to an editorial that was played over the headphones. It was found that participants were more likely to agree with the content of a highly persuasive appeal when they moved their heads up-and-down, as compared to side-to-side. While performing a behavior can influence a person's attitude, attitudes also influence future behavior. As discussed elsewhere in this encyclopedia, attitudes play an important role in predicting how an individual will behave in a particular situation.

Knowing the content of an attitude is important, because attempts to change attitudes are more successful when the persuasive appeal matches the content of the attitude. For example, if a person dislikes a beverage because it tastes bad, the person will be more convinced by a strong demonstration of a new, pleasant taste than by positive information about its health value.

The Structure of Attitudes

In addition to attitude content, another important issue concerns how positive and negative evaluations are structured in memory. It is sometimes assumed that having positive feelings, beliefs, and behaviors prevents the occurrence of negative feelings, beliefs, and behaviors. In other words, according to this *one-dimensional* perspective, the positive and negative elements of attitudes are stored at opposite ends of a single dimension, and people tend to experience either end of the dimension or somewhere in between.

This view is opposed by a *two-dimensional* view, which suggests that positive and negative elements are stored along two separate dimensions. One dimension reflects whether the attitude has few or many positive elements, and the other dimension reflects whether the attitude has few or many negative elements. This view proposes that people can possess any combination of positivity or negativity in their attitudes. As a result, attitudes may occasionally subsume both strong positive and negative components, which is labeled as attitudinal ambivalence. This ambivalence is an important determinant of whether attitudes are strongly held and resistant to change. For example, research has demonstrated that ambivalent attitudes are less likely to predict behavior. Further, individuals pay more careful attention to a persuasive appeal when they have an ambivalent attitude.

The Function of Attitudes

Considerable attention has been devoted to understanding the needs or functions that are fulfilled by attitudes. Almost 50 years ago, M. Brewster Smith and colleagues suggested that attitudes serve three primary functions: object-appraisal, social-adjustment, and externalization. *Object-appraisal* refers to the ability of attitudes to summarize the positive and negative attributes of objects. For example, attitudes can help people to approach things that are beneficial for them and avoid things that are harmful to them. *Social-adjustment* is fulfilled by attitudes that help people to identify with others whom they like and to dissociate from people whom they dislike. For example, individuals may buy a certain soft drink because it is endorsed by their favorite singer. *Externalization* is fulfilled by attitudes that defend the self against internal conflict. For example, bad golfers might develop an intense dislike for the game because their poor performance threatens their self-esteem.

In his own program of research, Daniel Katz proposed four attitude functions: knowledge, utility, ego-defense, and value-expression. The *knowledge* and *utilitarian* functions are similar to Smith and colleagues' object-appraisal function, while the *ego-defensive* function is similar to Smith and colleagues' externalization function. Katz also proposed that attitudes may serve a *value-expressive* function, such that an attitude may express an individual's self-concept and central values. For example, a person might cycle to work because he or she values health and wishes to preserve the environment.

Among the functions, the object-appraisal function is especially important because it is the capacity of attitudes to serve as energy-saving devices that make judgments easier and faster to perform. There is also an important distinction between instrumental and value-expressive attitudes. Knowing the primary function of an attitude is important, because attempts at attitude change are more likely to be successful when the persuasive appeal matches the function of the attitude.

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Gregory R. Maio

See also Attitude–Behavior Consistency; Attitude Change

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ATTITUDE STRENGTH

Definition

Some attitudes exert a powerful impact on thinking and on behavior, whereas others are largely inconsequential. Similarly, some attitudes are very firm, resistant to even the strongest challenges and persistent over long spans of time, but others are highly malleable, yielding to the slightest provocation and fluctuation over time. The term *attitude strength* is used to capture this distinction. Specifically, strong attitudes are those that (a) resist change, (b) persist over time, (c) guide information processing, and (d) motivate and direct behavior.

Background

A great deal of evidence attests to the impact of attitudes on a wide array of outcomes. There is evidence, for example, that attitudes can color one's interpretation of ambiguous stimuli, causing one to perceive the stimuli in attitude-congruent ways. This explains why supporters of two competing political candidates can watch the same political debate and come away equally convinced that their own preferred candidate prevailed. In addition, attitudes can shape people's perceptions of other people's attitudes, causing them to overestimate the prevalence of their views. There is also a wealth of evidence that attitudes motivate and guide behavior. For example, people's attitudes toward recycling are strongly predictive of whether they actually participate in recycling programs, and attitudes toward political candidates are excellent predictors of voting behavior. In these and countless other ways, thoughts and actions are profoundly shaped by attitudes.

Attitudes do not always exert such powerful effects, however. In fact, in addition to the impressive findings about the power of attitudes, the attitude literature is also full of an equally impressive set of failures to find any effect of attitudes on thought or behavior. In fact, by the late 1960s, the literature was so inconsistent that some prominent scholars questioned the very existence of attitudes, sending the field into a period of crisis.

Since then, social psychologists have made great progress toward identifying the conditions under which attitudes influence thoughts and behavior. It is now clear, for example, that attitudes are consequential for some types of people more than others, and in some situations more than others. More recently, social psychologists have also come to recognize that some attitudes are inherently more powerful than others. That is, across people and situations, some attitudes exert a strong impact on thinking and on behavior, whereas others have little or no impact.

Determinants of Attitude Strength

What makes an attitude strong? Over the past few decades, researchers have identified roughly a dozen distinct features of attitudes that are associated with their strength. These include *knowledge,* the amount of information people have stored in memory about the attitude object; *importance,* the degree to which people care about and attach psychological significance to an attitude object; *certainty,* the degree to which people are sure that their attitudes are valid and correct; *elaboration,* the amount of thought that has been devoted to the attitude object; *extremity,* how far from the midpoint the attitude is on a negative–positive continuum; *accessibility,* how quickly and easily the attitude comes to mind when the attitude object is encountered; *ambivalence,* the degree to which people simultaneously experience both positive and negative reactions to an attitude object; and a handful of other features. In separate programs of research, each of these attitude

features has been shown to relate to one or more of the four defining properties of strong attitudes.

For example, attitudes that a person considers personally important predict his or her behavior much more accurately than do less-important attitudes. Important attitudes are also more resistant to change when a person is confronted by a counterattitudinal persuasive message, and they are more stable over long periods of time. In addition, important attitudes influence information processing in ways that unimportant attitudes do not: They influence how much people like other people, how they evaluate political candidates, and many other cognitive processes.

Relations Among Strength-Related Attitude Features

Because attitude features relate in similar ways to the strength and durability of an attitude, researchers once assumed that they were interchangeable. To assess the strength of an attitude, a researcher might measure the importance people attach to the attitude or the amount of knowledge they possess about it or the certainty with which they held the attitude, or any one of the other strength-related features. Sometimes researchers would measure several of the strength-related features and combine them together into a single index of attitude strength.

More recently, however, researchers have come to appreciate the rather sharp differences between the various strength-related attitude features. For example, attaching importance to an attitude involves caring deeply and being passionately concerned about it, whereas being knowledgeable simply involves accumulating a large number of facts about the object. Differences of this sort raise the possibility that the various strength-related attitude features may operate differently, with unique consequences for thought and behavior. Indeed, a growing body of evidence supports this view. There is evidence, for example, that some attitudes are strong because people attach a great deal of importance to them, which has a particular set of consequences for thinking and action. Other attitudes are strong because they are based on a great deal of information, which sets into motion a somewhat different set of cognitive and behavioral consequences.

None of this evidence challenges the general notion that some attitudes are strong and others are weak. It reveals, however, that not all strong attitudes are alike. To the contrary, attitude strength is a multidimensional construct with a diverse set of consequences for thought and behavior.

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See also Attitude–Behavior Consistency; Attitudes; Persuasion

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ATTRACTION

Definition

Attraction, to a social psychologist, is any force that draws people together. Social psychologists have traditionally used the term *attraction* to refer to the affinity that draws together friends and romantic partners. However, many current researchers believe there are important qualitative differences among the forces that draw people into different types of relationships.

History

Perhaps the most influential model of interpersonal attraction was the reinforcement-affect model. According to this model, attraction between people follows simple principles of classical conditioning, or associative learning. A person will come to like anyone associated with positive feelings (e.g., the waitress in a favorite restaurant) and dislike anyone associated with negative feelings (the traffic cop who writes the person a ticket for taking an illegal left turn). A corollary of this model is that the higher the ratio of positive to negative associations one has in a relationship with another person, the more he or she will like that person. In other words, a person will like the person who has provided him or her with three rewards and one

punishment (for a ratio of .75 rewards) more than the person who provides him or her with six rewards and four punishments (yielding a lower overall ratio of .60, despite the higher total number of rewards). This corollary was studied by exposing research participants to other people who varied in their attitudinal similarity (on the assumption that meeting others who agree with them is rewarding).

Later research suggested a slight problem with this model, in that people generally tend to assume other people agree with them. Hence, the reward value of similarity is less than the punishment value of dissimilarity. Indeed, discovering that another person disagrees with one's important values does seem to be particularly unpleasant, and people tend to dislike those who disagree with them (particularly when those disagreeing people are members of their own groups, who they are particularly likely to expect to be similar).

The reinforcement-affect theory is an example of a domain-general model of behavior. Domain-general models attempt to explain a wide range of behavior using one simple principle. In this case, the simple and general principle is this: People, like other animals, will repeat behaviors that are rewarding and will not repeat behaviors that are not rewarding. Another domain-general model attempts to explain attraction by referencing broad principles of social exchange. Social exchange theories presume that people are implicitly driven by economic principles: People choose behaviors that they expect to maximize their future benefits and minimize their future costs. This model differs from a reinforcement-affect model in presuming that people do not simply respond passively to past rewards and punishments, but instead make mental calculations, including estimations of who is likely to be a good bargain in a future relationship. For example, you might pursue a relationship with someone who has never rewarded you in the past, and in fact you might even be willing to pay some initial costs to meet that person, if you have knowledge that they might make a good friend or mate. On the other side, you might pass on a potential mate who has been very pleasant to you if you estimate that you could get a better deal with someone else. Some variants of social exchange models presume that people are uncomfortable with any relationship that is an unfair bargain, whether they are underbenefitted (getting less than they deserve) or overbenefitted (getting more than they deserve).

Problems With Traditional Domain-General Models

Domain-general models tend not to be specific enough to predict which features or behaviors of another person will be attractive. What constitutes a general reward or punishment, or a general benefit or cost, for example? It turns out that, without further information, this is a difficult question to answer. Whether a kiss is a reward or a punishment depends on who is kissing whom (e.g., think about a person you find attractive as compared to an overly friendly but unattractive stranger at a bar). Furthermore, you may like someone quite well even when your relationship is very inequitable (a mother may tell you that she has never felt as positively toward anyone as her young baby, despite the fact that the baby tends to wake her with loud demands in the middle of the night and never even say "thank you").

Domain-specific theories of attraction make more particular predictions about what will and will not be attractive, depending on the particular category of relationship between two people and on their particular goals at the time. Social psychologists have suggested several ways to functionally divide types of relationships. One evolution-inspired view presumes that there are a limited number of recurrent problems of social living that all human beings need to solve in their relationships with others. These include affiliation (maintaining a small group of close friends to share various tasks and rewards), status (getting respect from and power over other members of one's group), self-protection (avoiding exploitation and harm from potential enemies), mate-search (choosing a desirable partner), mate-retention (holding onto a desirable partner), and kin-care (taking care of offspring and other close relatives). The rules of social exchange, and the particular content of rewards and punishments, are presumed to differ in important ways for people involved in these different kinds of interactions. For example, although you may keep close track of which friends do and do not pay their share of the restaurant bill, this type of accounting is much less likely to occur between children and their parents. For a man and a woman who have just begun dating seriously, on the other hand, it may be that the man desires to pay the bill to demonstrate his possession of resources and that the woman is content to allow him to pay so as to get a sense of his commitment and ability to provide

resources. For most couples at the early phases of dating, the man is more likely than the woman to request initial sexual behavior and to regard it as a benefit obtained from the relationship.

Remaining Questions

Social psychologists have only begun to study the implications of domain specificity for attraction. As yet, there is more theory than data on the questions of (a) what it is people find rewarding and punishing in friends versus lovers versus family members, and (b) how people's mental accounting differs for people involved in different types of relationships. Many social psychologists believe that the understanding of such processes will be enhanced by placing human attraction in the context of broad evolutionary principles derived from comparative studies of other animal species. Several such principles discussed elsewhere in this encyclopedia include differential parental investment (linked to the general tendency for offspring to be more costly for females than for males) and inclusive fitness (linked to an animal's success at assisting its genes into future generations via reproduction and assisting its genetic relatives).

Douglas T. Kenrick

See also Evolutionary Psychology; Social Exchange Theory; Social Learning

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ATTRIBUTIONAL AMBIGUITY

Definition

Attributional ambiguity is a psychological state of uncertainty about the cause of a person's outcomes or treatment. It can be experienced with regard to one's own outcomes or treatment or those of another person, and with regard to positive as well as negative outcomes or treatment. It occurs whenever there is more than one plausible reason for why a person was treated in a certain way or received the outcomes that he or she received.

Antecedents of Attributional Ambiguity

A variety of factors may contribute to attributional ambiguity. Most research on this topic has examined a particular form of attributional ambiguity: that which arises in social interactions between people who differ in their social identities or group memberships and in which there is uncertainty about whether an individual's treatment is based on his or her personal deservingness (such as abilities, efforts, personality, or qualifications) versus on aspects of his or her social identity (such as family wealth, appearance, ethnicity, gender).

Attributional ambiguity arises in such interactions when a particular social identity or group membership is associated with a set of stereotypes or beliefs that are valenced, that is, that make a person more or less valued in society. Simple differences among people are not sufficient. Thus, for example, it is unlikely that a student majoring in art would experience attributional ambiguity in his or her interactions with students majoring in psychology unless he or she believed that psychology majors held positive or negative stereotypes about art majors. For individuals to experience attributional ambiguity in their interactions with others, they must suspect that others have some ulterior motive for responding in a particular way. This is more likely to occur when they believe that others are aware of their social identity, are aware of others' stereotypes about their social identity, and have some knowledge of the content or valence of these stereotypes.

People who have a stigmatized social identity (such as members of devalued ethnic groups and the overweight) experience more attributional ambiguity in their everyday encounters than do those who are not stigmatized. Those who stigmatized are aware that others hold negative stereotypes about, and prejudicial attitudes against, their social identity. For some individuals, their stigmatized identity plays a central role in how they see themselves and in how they interpret others' reactions to them. Hence, when they are treated negatively by someone who is aware of their

social identity, they may be unsure whether it is due to something about them personally or due to prejudice against their social identity.

Positive outcomes also can be attributionally ambiguous for the stigmatized. When there are strong social sanctions against expressing prejudice, those who are stigmatized may become suspicious of positive feedback. They may wonder, for example, whether an evaluator's positive feedback on their essay accurately reflects the quality of their work or reflects the evaluator's desire not to appear prejudiced. Social programs designed to remediate past injustices, such as affirmative action programs, can introduce attributional ambiguity when they are seen as providing an explanation for positive outcomes based on social identity. When such programs make it clear that advancement is based on merit as well as social identity, such ambiguity diminishes. Those who are stigmatized may also find unsolicited kindnesses or offers of help attributionally ambiguous. They may wonder whether these responses reflect genuine caring for them as individuals or feelings of sympathy or pity because of their stigma.

Individuals who possess a statistically deviant but culturally valued social identity (such as extreme wealth, beauty, or fame) also may experience attributional ambiguity, particularly in response to positive treatment or outcomes. Like stigmas, culturally valued attributes are associated with valenced stereotypes, in this case generally positive stereotypes. These individuals may be uncertain whether others' favorable reactions to them are genuine or reflect ulterior motives. Similarly, they may be unsure whether they have earned their positive outcomes through their personal efforts or talents or were accorded them because of their culturally valued mark. In sum, attributional ambiguity is more likely to be experienced when one believes others hold negative or positive attitudes toward one's social identity and when one believes there are strong social norms against individuals expressing their true attitudes.

Consequences of Attributional Ambiguity

Attributional ambiguity has important affective, self-evaluative, interpersonal, and motivational implications. Uncertainty about the cause of one's social outcomes threatens a sense of predictability and control and is affectively distressing. Uncertainty about the cause of positive outcomes can undermine self-esteem by preventing a person from taking credit for his or her successes or internalizing positive feedback. Uncertainty about the cause of negative outcomes also can undermine self-esteem. When negative outcomes are, in fact, due to prejudice, ambiguity can mask this fact and lead people wrongly to doubt their ability. People who are rejected report higher self-esteem and less stress when they know for sure that the rejection was due to discrimination than when they are unsure of its cause. However, attributional ambiguity can also provide an opportunity for self-esteem protection. When alternative causes for an event are present (such as another's bias), the contribution of other causes (such as one's own ability) is discounted. Thus, attributional ambiguity may buffer self-esteem from negative outcomes if it enables individuals to discount internal, stable aspects of themselves as causes of those outcomes. Indeed, research shows that among individuals who experience negative feedback, the more they blame the feedback on prejudice rather than on themselves, the higher their self-esteem.

Attributional ambiguity can have negative implications for self-knowledge. When alternative attributions for both negative outcomes and positive outcomes are present, individuals may come to regard feedback as not particularly diagnostic of their true ability. Consequently, people who chronically experience attributional ambiguity and who feel vulnerable to being treated on the basis of their stigma find it more difficult to accurately assess their abilities, gauge their potential, and select tasks of a difficulty level that is appropriate to their ability.

Attributional ambiguity can interfere with cognitive performance when it leads people to devote cognitive resources to trying to figure out why they were treated in a particular way rather than focusing on the task at hand. Attributional ambiguity can undermine motivation when it leads people to question the extent to which their outcomes are under their personal control (such as their own effort) as opposed to outside of their control. Attributional ambiguity can damage relationships by undermining trust and engendering suspicion. Finally, attributional ambiguity may lead to physiological changes in the body, such as increased blood pressure and decreased production of antibodies, which have negative implications for health.

Brenda Major

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ATTRIBUTION CUBE

See KELLEY'S COVARIATION MODEL

ATTRIBUTIONS

Definition

The term *attribution* has several distinct meanings. In the 1920s, Austrian philosopher and psychologist Fritz Heider originally referred to attribution as a central process in human perception that helped solve a philosophical puzzle of the time. According to this puzzle, the mind perceives objects that exist in the world, but the perception itself exists in the mind; how, then, can people experience objects as "out there" rather than "in here," in their own minds? Heider argued that humans engage in a psychological process of *attributing* their subjective experiences to objects in the world. That is, the objects are cognitively reconstructed to be the causal sources of perceptual experiences. By contrast, when people try to imagine (rather than perceive) an object, they attribute this experience to their own minds.

The second meaning is also based on Heider's theorizing. In the 1940s, Heider became interested in social cognition, the processes by which people perceive and make judgments about other people. Here attributions are also causal judgments, but judgments about the causes of people's behavior. Heider distinguished between two types of *causal attributions.* Attributions to personal causes refer to beliefs, desires, and intentions that bring about purposeful human behavior (e.g., writing a letter with the desire of impressing a potential employer); attributions to impersonal causes refer to forces that don't involve intention or purpose (e.g., the wind drying out a person's eyes). Thus, in the domain of social perception, social psychologists speak of *causal attributions* for behavior, that is, people's attempts to explain why a behavior occurred.

A third kind of attribution is *dispositional attribution.* Beginning with Edward E. Jones in 1965, researchers became interested in a particular judgment people sometimes make when they observer another person's behavior: inferences about the person's more stable dispositions such as traits, attitudes, and values. For example, Dale sees Audrey flutter her eyelashes and concludes she is flirtatious. Sometimes people are too eager to make such dispositional attributions even when the behavior in the particular context does not warrant the inference; in that case, people are said to display the correspondence bias or fundamental attribution error.

Finally, social psychologists speak of *responsibility attributions* and *blame attributions,* which are judgments of a moral nature. When a negative outcome occurs (e.g., a window is shattered), people try to find out who is responsible for the outcome, who is to blame. Often such responsibility attributions rely directly on causal attributions (e.g., whoever shattered the window is responsible and is to blame), but sometimes they are more complex. When the window is shattered because the neighbor's dog tried to chase a cat teasing him behind the window, the neighbor will be responsible, and if a strong wind causes the damage, the insurance will be responsible. Responsibility attributions, then, are based both on causality (who brought about what) and on people's obligations (who ought to do what).

Attributions are thus judgments in which an experience, behavior, or event is connected to its source: the underlying object, cause, disposition, or responsible agent.

Bertram F. Malle

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ATTRIBUTION THEORY

Definition

Attribution theory—or rather, a family of attribution theories—is concerned with the question of how ordinary people explain human behavior. One type of attribution theory emphasizes people's use of folk psychology to detect and understand internal states such as goals, desires, or intentions. People then use these inferred states to explain the behavior they observe. Another type of attribution theory assumes that people observe regularities and differences in behavior to learn about dispositions (e.g., personality traits, attitudes) that are characteristic of themselves or others. Attribution theories pose a challenge to academic efforts to account for behavior that either fail to explain the individual behaviors of individual people or that deny the usefulness of folk psychological (or mentalistic) concepts. Attribution theories are complemented by what is sometimes called *attributional theories.* These theories address the consequences of particular attributions for emotions (e.g., anger vs. pity), judgments (e.g., of guilt vs. innocence), and behavior (e.g., aggression vs. assistance).

Attribution as Perception

In 1958, Fritz Heider introduced an early version of attribution theory at a time when behaviorist theories of learning and memory and psychoanalytic theories of unconscious motivation dominated academic psychology. These theories had little use for naive explanations of behavior. In contrast, Heider stressed the importance of studying everyday attributions because they influence how people feel and what they do.

Heider made two important distinctions. The first distinction was whether a behavior is seen as intentional or unintentional; the second distinction was whether a behavior is seen as caused by something about the person or by something about the situation. These two distinctions are related because intentional behaviors say more about the person than about the situation. Heider anticipated that people regard personal attributions as most important. Individualist cultures, in particular, foster a tendency to see humans as autonomous agents who have some control over their own behavior. Once they have made a personal attribution, people can predict a person's future behavior more confidently. Suppose Ringo repays a loan from Paul on time. If Paul concludes that Ringo is trustworthy, he may help him again when the need arises, or feel comfortable to trust Ringo in other ways, as when confiding a piece of gossip about George.

The repayment of a loan is likely seen as an intentional act, especially when there are no signs that the person was coerced. Heider suggested that an attribution of intentionality can be made with little thought, much like the visual perception of objects is largely automatic. In social perception, the person and the behavior form a perceptual unit, and thereby suggest a causal connection. Experiments have shown that the observation of a behavior that implies a certain personality trait (such as the timely repayment of a loan suggests trustworthiness) makes that trait mentally accessible. If, for example, people read about a repaid loan and a host of other behaviors, seeing the word *trustworthy* at a later time helps them recall the specific behavior that suggested it.

Whereas the person–behavior unit is figural in social perception, the situation is usually the background. Compared with a person, a situation is typically not well organized perceptually. It can comprise the presence of other people, current moods, the weather, or the time of day. Only when a particular aspect of a situation commands attention, such as the threat of penalties in the loan example, can situational attributions become more prominent.

The attribution of an intentional, and thus personal, causation is furthered if the actor exerts effort. If we learn that Ringo recently took a second job, we feel more confident about his intention to repay the loan. In general, if a person appears to go the extra mile to produce a desired effect, people attribute the behavior to a conscious goal. The third, and perhaps the strongest cue toward intentionality is what Heider called

equifinality. Equifinality can only be revealed by several behaviors that lead to the same end result. Courting behavior is an example. A suitor who sends flowers, cards, and chocolates, and who also serenades the object of his desire really seems to mean it. Note that these cues are not independent. He who seeks many means to achieve the same end can often only do so by exerting more effort than he who is more nonchalant.

Attribution as Inference

In 1965, Edward Jones and Keith Davis proposed the more formal theory of correspondent inferences. They stressed that attributions of intentionality depend on the impression that the actor freely chose what to do. There had to be alternative options as well as a lack of situational pressures, such as coercion by others. A chosen option is most informative if its alternatives differ in their consequences, and if the person was able to foresee these consequences. For example, we can learn about Ringo's intentions from what he did with the money he borrowed. Suppose he had the options of buying a lawn mower, a new computer, or a cruise for his wife. Choosing the last option is most informative because it has the unique consequence of affirming an important personal relationship.

The question of free choice became a watershed issue for all attribution theories because it most clearly separates personal from situational causes. Originally, Jones and his colleagues believed that people would discount personal explanations if a behavior was externally constrained. In a famous experiment in 1967, Jones and Victor Harris found, however, that people thought a person who, in compliance with an experimenter's request, had written an essay in praise of Fidel Castro, privately held pro-Castro attitudes. The tendency to make inferences about the person even when the situation could fully explain the behavior, was henceforth called the *correspondence bias,* or more evocatively, the *fundamental attribution error.* In short, the theory of correspondent inferences assumed that the road from behaviors to dispositional attributions is a rocky one because of the multiplicity of considerations that is presumably necessary. In contrast, the evidence for quick and potentially biased inferences suggests that people make use of perceptual shortcuts, just as Heider had suspected.

Some of these shortcuts are self-serving. People readily attribute successes and other positive events to their own efforts or enduring qualities, while attributing failures or other setbacks to chance or to features of the situation (e.g., "The test was unfair!"). Although self-serving biases are suspect from a normative point of view, they have adaptive benefits. People who attribute successes to their own ability and their failures to bad luck are less likely to be depressed and more likely to persevere after setbacks. These biases are truly self-serving only if they are unique to the self-perspective, that is, if the favorable explanatory pattern does not affect explanations of the behaviors or outcomes of others.

A more general bias is the actor–observer effect, which refers to the tendency to make fewer dispositional or more situational attributions for one's own behavior than for the behavior of others. This effect turns out to be rather weak. Bertram Malle has suggested that the main difference between the self- and the observer's perspective is that the former heavily relies on reasons as explanations, whereas the latter relies on causes. Reasons are derived from intentions, which people find available in their own minds but can only infer from the behavior or others; causes include all situational sources of behavior as well as personal dispositions that lie outside the realm of intentional action (e.g., habits, compulsions, automatisms).

Attribution as Induction

Perceptions and inferences regarding intentionality and causality can involve a fair amount of guesswork. Their quality depends on the perceiver's ability to make reasonable assumptions to make up for missing information. Harold Kelley suggested that attributions are a certain kind of inductive inference. That is, people induce a probable cause from available information. Following the British empiricists, and particularly John Stuart Mill's joint method of agreement and difference, Kelley proposed that an event (e.g., a behavior) is attributed to whichever potential cause is present when the event is present and that is absent when the event is absent.

In Kelley's scheme, there are three sources of variability. Variability over actors is called *consensus.* Consensus is low if only Ringo, but no one else, repays his loan. It suggests that Ringo, but not Paul, should be credited as the source of Ringo's behavior. Variability over stimuli is called *distinctiveness.* Distinctiveness is high if Ringo only repays Paul but not

George, suggesting that Paul has some control over Ringo's behavior. Finally, variability over time is called *consistency.* Consistency is high if the behavior occurs repeatedly, as when, for example, Ringo always repays his loans. By itself, consistent behavior does not reveal much about its likely cause. If, however, consensus or distinctiveness information already suggests a particular attribution, high consistency makes this attribution more certain.

A full suite of information concerning consensus, distinctiveness, and consistency is called a *configuration.* On the basis of such a configuration, a social perceiver can decide whether to attribute a behavior to the person, to the stimulus, to the particular relationship between the two, or to the circumstances prevailing at the time. With each of the three types of information being either high or low, eight different configurations are possible. The configuration of low consensus, low distinctiveness, and high consistency affords the strongest person attribution; the configuration of high consensus, high distinctiveness, and high consistency affords the strongest stimulus attribution. Over the years, numerous refinements to Kelley's model have been introduced. The goal of these efforts has been to identify unique predictions for each possible configuration, and to validate these predictions with empirical data about how social perceivers actually make attributions.

Patricia Cheng's and Laura Novick's probabilistic contrast model advances these ideas by recognizing the uncertainty of many causal attributions. In their model, an aspect of the world (e.g., a person or a situation) is perceived as a cause if the event (e.g., a behavior) is more likely to occur when this aspect is present than when it is absent. That is, causality is inferred from a difference between probabilities. This theory can account for a complex interplay of causes. Suppose that the probability of Ringo repaying a loan is greater if Paul is the lender than if George is the lender, whereas the probability of John repaying the loan is low regardless of lender. Statistically, this pattern is an interaction; it reveals the unique relationship between Ringo and Paul as the most probable cause. Yet, Kelley's theory leads to the same conclusion, because the pattern of covariation is coded as one with low consensus, high distinctiveness, and high consistency. So what has been gained? Note that Kelley's model ignores the probability of another actor (John) repaying another lender (George). If this probability

were high, Ringo's behavior would no longer be unusual, and hence, the attribution of his behavior to his relationship with Paul would also be weakened.

Attribution as Construction

The probabilistic contrast model is conceptually elegant, mathematically rigorous, and empirically well supported. However, the price for the model's precision is a lack of realism. The Cheng and Novick model, as well as other theories of inductive inference, faces several critical issues, which set the agenda for current and future refinements of attribution theory.

The first issue is that ordinary social perceivers rarely have enough information to evaluate configurations of evidence. To make attributions, they must exploit direct perceptual inferences, inferences based on partial cues, or common social background knowledge. Recent integrative models address this problem by combining aspects of the folk psychology approach with the statistical-reasoning approach.

The second issue is that sources of information are rarely independent. Behavior low in distinctiveness also tends to be highly consistent because people enter different situations sequentially. To untangle distinctiveness from consistency, they must figure out which situations they can treat as identical and how they can mentally correct the conflation of different situations with different times. Formal statistical tools can do this with numerical data, but ordinary intuition is not equipped to handle this task.

The third issue is that trait attributions, once made, do not contribute much to the causal explanation of behavior. Once we believe that Ringo is trustworthy, this characteristic of his becomes a mere enabling condition because it is always there. As a trait, trustworthiness is, by definition, a constant feature and therefore cannot vary. To explain a particular trustworthy act, some additional cause must be invoked. When the additional cause is an aspect of the situation, a peculiar shortcoming of standard attribution theory emerges. Since the days of Heider's theory, personal and situational causes have been treated as competitive. Kelley's famous discounting principle states that the stronger the situational cause is, the weaker the personal cause must be. The assumption of a hydraulic relationship between personal and situational causes may not be realistic. People who react aggressively to provocation, for example, are seen as

having aggressive personalities, whereas people who aggress without provocation are more likely seen as disturbed. Contrary to the classic logic, a situational stimulus can enable a dispositional attribution, rather than inhibit it.

The final and most fundamental issue is that patterns of covariation never prove causation. One can show that a given covariation is not causal, but one cannot prove that a covariation is *not* not causal. Educated people do not believe that the crowing of a rooster calls forth the dawn of a new day even if it consistently precedes it. There is no known mechanism that links the two. In contrast, if a comedian's cracks are always followed by riotous laughter, one can examine the specific properties of the jokes as mediating variables and note the fact that the intervals between jokes can be varied at will.

When there is a plausible process, or mediator, variable that can link an effect to a putative cause, the case for causation becomes stronger, but it still is not proven. The problem reduces again to covariation, that is, to the statistical relationships between the presumed cause and the mediator variable, and between the mediator variable and the effect. That there is no end to this, no matter how many mediator variables are inserted, reinforces philosopher David Hume's skepticism regarding causation. Covariations can be accepted as causal only with the aid of perceptions, inferences, or beliefs that lie outside of the field of observable data.

Whereas attribution theories call on the concepts of folk psychology to support causal claims, the same concepts remain suspect as prescientific from an academic perspective. This leads to the ironic conclusion that ordinary people often have a greater facility in explaining individual behaviors than some formal theories do. Moreover, theories that reject intentions, or conscious will more generally, as a cause of behavior imply that the ordinary person's interest in them must be mistaken. The counterargument is that intentions are no different from other mental phenomena, such as attention, learning, or memory, that many reductionist theories invest with explanatory power. If so, insights gained from folk psychology and formalized by attribution theories can enrich academic theories of human behavior, just as Heider hoped they would.

Most scientific theories rely on experimentation to determine the causes of behavior. If experimentation were the royal road to understanding causation, one might demand ordinary people to conduct experiments before making attributions. They usually do not, and they should not be blamed, because experimentation is difficult and costly (note that such blaming would be an act of attribution). Experimentation has its own limitations. One is that experiments are better suited for the detection of behavioral trends in groups of people than for finding out why a certain person performed a specific act. Another limitation is that personal characteristics such as traits are, by definition, stable and thus not amenable to experimental variation.

The most important limitation, however, is the general force of Hume's critique. Causality cannot be established by observation alone; instead, it requires a psychological contribution that goes beyond the data given. This is true in scientific experimentation as it is in ordinary social perception. Experiments only yield patterns of covariation. The extra knowledge that scientists use to go beyond covariation is their belief that they can replicate experimental results at will. In other words, their own intentions and sense of agency play a crucial role in their conviction that covariations observed in experimental data can keep Hume's specter at bay. By explaining the causal beliefs of behavioral scientists, attribution theory comes full circle.

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See also Actor–Observer Asymmetries; Attributions; Correspondence Bias; Fundamental Attribution Error; Kelley's Covariation Model; Self-Serving Bias; Social Projection

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AUTHENTICITY

Authenticity generally reflects the extent to which an individual's core or true self is operative on a day-to-day basis. Psychologists characterize authenticity as multiple interrelated processes that have important implications for psychological functioning and well-being. Specifically, authenticity is expressed in the dynamic operation of four components: awareness (i.e., self-understanding), unbiased processing (i.e., objective self-evaluation), behavior (i.e., actions congruent with core needs, values, preferences), and relational orientation (i.e., sincerity within close relationships). Research findings indicate that each of these components relates to various aspects of healthy psychological and interpersonal adjustment.

The importance of being authentic in one's everyday life is evident in phrases like "keep it real" and "be true to yourself." However, what does it mean to be authentic? For example, does it mean, "be myself at all costs?" Historically, examination of the nature of authenticity and its costs and benefits exists in such diverse sources as William Shakespeare's Polonius, *Star Wars*' Luke Skywalker, and numerous hip-hop gangstas, each portraying characters whose complex challenges involve their *knowing* and *accepting* whom they are, and *acting* accordingly.

A Multicomponent Conceptualization

One definition of authenticity is that it reflects the unobstructed operation of one's true, or core, self in one's daily enterprise. From this perspective, the essence of authenticity involves four interrelated but separable components: (1) awareness, (2) unbiased processing, (3) behavior, and (4) relational orientation. The awareness component refers to being aware of one's motives, feelings, desires, values, strengths and weaknesses, and trait characteristics. Moreover, it involves being motivated to learn about these self-aspects and their roles in one's behavior. As one learns about these self-aspects, one becomes more aware of both the "figure" and "ground" in one's personality aspects. In other words, people are not exclusively masculine or feminine, extraverted or introverted, dominant or submissive, and so on. Rather, although one aspect of these dimensions generally predominates over the other, both aspects exist. As individuals function with greater authenticity, they are aware that they possess these multifaceted self-aspects, and they use this awareness in their interchanges with others and with their environments.

A second component of authenticity involves the unbiased processing of self-relevant information. Stated differently, this component involves objective assessment and acceptance of both positive and negative self-aspects and evaluative self-relevant information. Conversely, it involves not selectively denying, distorting, or ignoring positive and negative information about oneself (e.g., one's positive achievements or poor performances). Some people, for instance, have great difficulty acknowledging having limited skills at a particular activity. Rather than accept their poor performance, they may rationalize its implications, belittle its importance, or completely fabricate a new and better score. Others have difficulty acknowledging positive aspects of themselves or their abilities, and they interpret their success to be due exclusively to luck. All of these people are exhibiting bias in processing evaluative self-information that reflects the relative absence of authentic self-evaluation.

A third component of authenticity involves behavior, specifically whether an individual acts in accord with his or her true self. Behaving authentically means acting in accord with one's values, preferences, and needs as opposed to acting merely to please others, comply with expectations, or conform to social norms. Likewise, behavioral authenticity is limited when people act falsely to attain external rewards or to avoid punishments. The distinction between acting authentically versus acting falsely can be complex. For instance, situations exist in which the unadulterated expression of one's true self may result in severe punishments (i.e., insults or exclusion). In such cases, behavioral authenticity exists when a person is aware of the potential adverse consequences of his or her behaviors and chooses to act in ways that express his or her true self. The important point is that authentic behavior does not reflect a compulsion to be one's true self, but rather the choice to express one's true feelings, motives, and inclinations.

A fourth component of authenticity involves one's relational orientation toward close others, that is, the extent to which one values and achieves openness and truthfulness in one's close relationships. Relational authenticity also entails valuing close others seeing the real you, both good and bad. Stated differently, an authentic relational orientation reflects being able and

motivated to express one's true self to intimates. Thus, an authentic relational orientation involves engaging in self-disclosures that foster the development of mutual intimacy and trust. In contrast, an inauthentic relationship orientation reflects deliberately falsifying impressions made to one's close others, or failing to actively and openly express one's true self to them (e.g., avoiding expressing true feelings out of fear of disapproval or rejection). In short, relational authenticity means being genuine and not fake in one's relationships with close others.

Distinct yet Interrelated Components

While the multiple components of authenticity may often play a collaborative role and be in harmony with one another, instances exist where only some are operative. For example, when people react to environmental contingencies (i.e., rewards or punishments) by behaving in accord with prevailing social norms that are at odds with their true self, authenticity may still be operative at the awareness and processing levels. That is, while people may not be behaving authentically, they may still be thinking and processing self-evaluative information authentically. In other instances, authenticity may not be operative at these levels either, as when people rationalize their behavior by distorting its implications (biased processing), or mindlessly behave without consulting their true desires (nonawareness). These considerations suggest that, instead of focusing exclusively on whether actions are authentic, it is useful to focus on the extent to which processes associated with other authenticity components (i.e., awareness, unbiased processing) inform behavioral choices. Social psychologists have yet to examine these complicated issues in research, but this is likely to change in the near future. For now, it is useful to note that although the awareness, unbiased processing, behavior, and relational orientation components of authenticity are interrelated, they are distinct from one another.

Research

Considerable research supports the assertion that authentic functioning relates to positive psychological health and well-being, as well as to healthy interpersonal relationships. For example, researchers have found that authentic functioning relates to higher and more secure self-esteem, less depression, and healthier interpersonal relationships.

Awareness

Considerable research demonstrates the benefits of possessing self-knowledge that is clear, internally consistent, and well integrated across one's social roles. The same is true for being motivated to learn about oneself: The more one takes an open and nondefensive stance toward learning about oneself, the better one's overall psychological functioning. Moreover, possessing substantial knowledge about one's emotional states, for example, what makes one happy or sad, also confers considerable benefits toward one's health and well-being. Importantly, learning about oneself is an ongoing process that continues throughout the life span.

Unbiased Processing

Processing positive and negative evaluative information in an objective manner allows individuals to gain accurate self-information that they can use to make well-informed decisions regarding their skills and abilities. In contrast, distorting information to exaggerate one's positive qualities or minimize one's negative qualities may feel good in the short run, but it is detrimental in the end. For example, research indicates that experts rate people as narcissistic and not well adjusted if they view themselves considerably more positively than others view them. Conversely, exaggerating negative self-relevant information or being overly self-critical increases one's risk for depression and other psychological disorders.

Behavior

Researchers have found that people who pursue goals that are congruent with their core self are less depressed, feel greater vitality and energy, and generally are more psychologically adjusted than are people who pursue goals that are not congruent with their core self. Thus, it is very important to consider why people adopt their goals. When people adopt goals because they are personally important, interesting, and fun, they are healthier than when they adopt goals because they feel pressured by others or because they want to avoid feeling guilty or anxious (signs that the goal is not fully congruent with the core self). In general, people

whose behavior is consistent with who they really are and their central values are happier and healthier than people whose behavior is based primarily on attaining rewards or avoiding punishments.

Relational Orientation

Healthy close relationships involve trust and intimate self-disclosures. People vary in how willing or able they are to share their foibles and shortcomings with their relationship partners. Those whose close relationships involve reciprocal intimate self-disclosures are generally more satisfied with their relationships than are people whose close relationships involve more shallow or nonreciprocal self-disclosures. Research indicates that a major factor contributing to adolescents acting falsely (suppressing the expression of their true thoughts and feelings within those relationships) is that they perceive a lack of parental and peer approval. Likewise, adults who do not feel validated by their relationship partners tend to exhibit increased false-self behaviors within the relationship, which in turn accounts for their heightened feelings of depression and low self-esteem.

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See also Self; Self-Awareness; Self-Esteem Stability

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AUTHORITARIAN PERSONALITY

Definition

The authoritarian personality describes a type of person who prefers a social system with a strong ruler— the authoritarian person is comfortable being the strong ruler but if the individual is not the strong ruler then he or she will demonstrate complete obedience to another strong authority figure. In both cases, there is little tolerance toward nonconservative ways of thinking. People whose personalities are structured in the manner of an authoritarian personality tend to conform to authority and believe that complete obedience to rules and regulations is completely necessary; any deviation from rules is to be treated harshly. The authoritarian personality often results in people harboring antagonistic feelings towards minority groups, whether religious, ethnic, or otherwise.

History and Development

The history of research on the authoritarian personality stems largely from the end of the Second World War and the Holocaust. During the 1950s, one prevailing fear was the potential spread of anti-democratic ideologies as had been seen by the rapid spread of Nazi fascism. The origin of racism and prejudice was an important topic in the academic world because of the mass genocide of the Jews. Scientists also realized

that prejudice and anti-democratic ideologies—and fascism in particular—were not characteristic of any specific group, which meant that they began looking for another theory to explain these phenomena.

Concerns over the potential rise of fascism led to a search for a theory to identify those who were susceptible to anti-democratic ideologies. Theodor Adorno, a sociologist, is credited with the theory of authoritarian personality, which addressed the need for an explanation of prejudice and racism. Adorno believed that a certain personality structure was common among people who may fall victim to anti-democratic ideology. Adorno and his colleagues characterized the authoritarian personality structure on nine dimensions, discussed in the following section.

One implication of the theory that a personality structure causes this susceptibility is that the prejudice or racism is a product mostly of the people believing it, and not of the actual target. More specifically, anti-Semitism would not have much to do with the characteristics of Jewish people, but rather the characteristics of the people who dislike the Jews.

The authoritarian personality is thought to emerge from childhood experiences. This reasoning comes from Sigmund Freud's psychoanalytic theory. Freud suggested that childhood experiences, especially those with parents, lead to people's attitudes as adults. For example, if children have a very strict authoritarian parent, they will learn to suppress thoughts, feelings, and actions which might be considered immoral (e.g., aggression or sex drive). Later, because the child learned not to act on certain urges, the urges are projected onto other "weaker" people, often minorities. This results in the negative attitudes that authoritarian people carry regarding other groups. Again, the projection of internal suppressed urges onto others suggests that the prejudice is due to the individual's personality, not to traits of the oppressed group.

Though the term *authoritarian personality* implies a dominating or controlling personality, in theory a person with an authoritarian personality can actually prefer to be obedient to a clear authority figure. This type of personality desires strict adherence to rules and sees a clear distinction between the weak and the strong. Authoritarian personalities are somewhat conflicted because they want power, but also are very willing to submit to authority.

Despite Adorno's efforts to separate right-wing conservatism from authoritarian personality, Robert Altemeyer's later version of authoritarian personality was almost synonymous with right-wing conservatism. Altemeyer's take on authoritarian personality included only three of Adorno's nine dimensions associated with authoritarian personality: *conventionalism, authoritarian aggression,* and *authoritarian submission.* Recently, a book by John Dean critically discussed conservatism (and the Republican Party) from the right-wing authoritarian personality viewpoint put forth by Altemeyer.

Research

The first research on authoritarian personality was, for the reasons mentioned above, very politically driven. While the overarching goal was to explain racism and prejudice, the research direction boiled down to trying to predict who would be susceptible to anti-democratic ideas by measuring personality traits.

Three scales that were assumed to be indicative of authoritarian personality (the anti-Semitism, ethnocentrism, and political economic conservatism scale) were used to measure the general agreement with an anti-democratic or fascist viewpoint. Adorno and his colleagues sought to further understand the personality structure and developed a scale, the F-scale, which was meant to measure "implicit antidemocratic tendencies and fascist potential." The scale's more general purpose was to show the underlying structure of an authoritarian personality and to predict potential for conforming to fascism and anti-democratic ideology. The F-scale is made up of questions relating to nine aspects: *conventionalism, authoritarian submission, authoritarian aggression, anti-intraception, superstition and stereotypy, power and "toughness," destructiveness and cynicism, projectivity,* and *sex.*

Each of the aspects of the scale is meant to tap a different part of the authoritarian personality. *Conventionalism* questions get at how strongly one believes in middle-class values. Fascism was thought to originate in the middle class and potential fascists would then score high on conventionalism. Those who are very willing to submit to authority and desire strong leaders would score high on *authoritarian submission* questions. High ratings on the *authoritarian aggression* questions reflect attitudes that imply dislike toward minority groups and the belief that deviations from authority deserve severe punishment. It was thought that a person high in authoritarian aggression had probably had a strict childhood, preventing him or her to indulge in few desires, which led to this person projecting his or her frustration onto

other people who participated in "morally unsound" practices. *Anti-intraception* is a characteristic of the authoritarian personality which results in a low tolerance for creative thinking and emotion-importance; people who are *anti-intraceptive* (i.e., are not particularly self-aware) reject subjective thinking in favor of more concrete thinking (e.g., placing high importance on clearly observable facts instead of thoughts and feelings). *Superstition* and *stereotypy* show the extent to which a person feels that his or her fate depends mostly on external forces and that he or she cannot personally influence outcomes of situations. A strong belief in two types of people (e.g., strong and weak) will be reflected in *power* and *toughness* questions. Authoritarian personalities prefer strong leaders who can maintain order by severe punishment of those who deviate. The *destructiveness* and *cynicism* variable again addresses the authoritarian personality's aggression, but this time the aggression is not based on morality. The idea here is that people with authoritarian personalities harbor aggression and are just waiting for an opportunity to act on it. The *projection* items on the F-scale are used to tap subjects' repressed urges (which were mentioned in relation to authoritarian aggression) by asking them about the negative attributes of others. For example, an anti-Semite's view that Jews are hostile may actually reflect his or her own repressed hostility projected onto someone else. Finally, the *sex* items on the F-scale also deals with the suppression of urges, namely sexual. Because authoritarian personalities suppress their sexuality (they see it as immoral), their attitudes toward people who engage in these acts is especially negative.

Since the creation of the F-scale, its validity (i.e., ability to actually predict what it claims to predict) has been called into question on numerous occasions, and on numerous occasions has failed these validity tests. It has also failed to predict right-wing authoritarianism, as many left-wing group members can score high on the test. However, the F-scale has shown some correlations, or relationships, to other constructs such as superstition and "old-fashioned" values. Another suggestion has been that the F-scale reflects narrow-mindedness.

Overall, scientists have abandoned the use of the F-scale to study prejudice and racism today. If the scale merely reflects values from the early 1900s or superstitious beliefs, it is not very useful for identifying and predicting racist attitudes. Many of the scale's questions do mirror the cultural environment of the 1920s and 1930s, but this does not necessarily imply that these values are strongly related to potential for fascist behavior. Also, the idea that racism exists because of alternative attitudes of a few people is not very plausible. Rather, scientists now believe that racism and prejudice result largely from group membership attitudes that reside in all humans. Research on prejudice and racism now tend to take a group approach, instead of studying the personalities of people individually. Political researchers, on the other hand, still make use of authoritarian personality, but generally use Altemeyer's right-wing authoritarianism in place of Adorno's original construct.

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See also Attitudes; Personality and Social Behavior; Political Psychology; Prejudice; Racism

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AUTHORITY RANKING

See RELATIONAL MODELS THEORY

AUTOBIOGRAPHICAL NARRATIVES

Definition

Autobiographical narratives are the stories people remember (and often tell) about events in their lives. Some autobiographical narratives refer to memories of important personal events, like "my first date" or "the day my father died." Others may seem trivial, like a memory of yesterday's breakfast. Many psychologists study the extent to which memories of personal events are accurate. They ask questions like these: How *true* is the memory? Is the story a *distortion* of

what really happened? Other psychologists are interested in what autobiographical narratives say about a person's self-understanding or about social life and social relationships more generally. Their questions include these: What does a particular memory *mean* for the person remembering it? How do people *use* autobiographical narratives in daily life?

What Do We Remember?

People's memory of personal events is *not* like a video recording that can simply be played back. For one thing, people eventually forget most of the events that occur to them. Try to remember what you ate for lunch on June 1, 2005. Or what you wore the day before that. Clearly, the brain has more important things to do than remember every event that has ever occurred. Second, the details of those events people do recall, even when they recall them vividly, often turn out to be inaccurate and mixed up, especially as those events fade into the distant past. At the same time, research suggests that while people often make errors in recalling the details of important personal events from long ago, their narrative accounts are surprisingly accurate in conveying the overall gist of those events. People remember the big picture better than they do the small facts.

Many psychologists see autobiographical memory as an active and creative process. People *construct* memories by (a) attending to certain features of a to-be-remembered event, (b) storing information about that event according to personally meaningful categories and past experiences, (c) retrieving event information in ways that help solve social problems or meet situational demands, and (d) translating the memory of the event into a coherent story. What people attend to, how they store autobiographical information, what they eventually retrieve from their memory, and how this all gets told to other people are all influenced by many different factors in the person's life and social world, including especially a person's goals. For example, a person whose life goal is to become a physician may have constructed especially vivid personal memories of interacting with doctors and nurses growing up, positive experiences with biology and the health sciences, and episodes of helping other people. Autobiographical narratives provide a ready supply of episodic information that people may consult in making important decisions about the future.

Development and Functions

Most people can recall virtually nothing from before the age of 2 years. Autobiographical memory begins to manifest itself in the third and fourth year of life as young children begin to form simple memories about events that have happened to them. Parents, siblings, and teachers often provide considerable assistance in the development of early autobiographical memory. They will ask young children to recall recent events (yesterday's trip to the park, Sarah's birthday party) and encourage them to relate the event as a story. By the age of 5, most children are able to tell coherent stories about events in their lives, complete with setting, characters, plot, and a sense of beginning, middle, and end. As children move through elementary school, their autobiographical memories become more complex and nuanced.

In adolescence and young adulthood, people begin to organize memories of particular personal events into larger, integrative life stories. These internalized and developing life stories may serve as expressions of *narrative identity*. In other words, people's life stories—their autobiographical understandings of their lives as a whole—help to provide their lives with meaning and direction, explaining in story form how they believe they came to be who they are today and where they believe their life may be headed in the future. Life stories continue to develop as people move through their adulthood years, reflecting new experiences and challenges as well as their ever-changing understanding of the past. An adult's life story may contain many key scenes, such as especially important early memories, high points, low points, and turning points. While these important scenes may originate from almost any point in the life span, research shows that people tend to have an especially large number of emotionally vivid autobiographical recollections from their late-adolescent and early-adult years—memories of events that took place between the ages of about 15 and 25.

People often share their stories of important personal events with friends and acquaintances. Personal storytelling, therefore, often promotes interpersonal intimacy. Parents often tell their children stories from their own past, teachers often employ autobiographical narratives to promote learning in the classroom, and many adults see personal narratives as effective vehicles for socialization and imparting moral lessons for young people. The stories people tell about their own

lives, furthermore, reflect the values and norms of their culture. For example, research suggests that American children tend to develop more elaborate personal memories than do Japanese and Chinese children, arguably reflecting a Western emphasis on the full expression of the individual self (over and against an East Asian emphasis on the collective). Stories are shaped by social class and gender: Working-class people prefer certain kinds of stories about the self while upper-middle-class people may prefer others; women and men are expected to tell different stories about their lives. In important ways, autobiographical memories reflect what has actually happened in a person's life. But they are also strongly shaped by a person's values and goals; the people with whom, and the occasions wherein, personal stories are told; and the broad forces of social class, gender, religion, society, and culture.

Dan P. McAdams

See also Memory; Search for Meaning in Life; Self-Reference Effect

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AUTOMATIC PROCESSES

Definition

Automatic processes are unconscious practices that happen quickly, do not require attention, and cannot be avoided.

Analysis

Imagine you are driving a very familiar route, such as your daily route to school, the university, or your work. You mindlessly drive along various familiar roads and upon arrival, a friend asks you, "Did you see there's a new DVD/video store on the square near the church?" You did pass this square, as you always do, but you

didn't notice the new store, and you answer, "Oh, I was thinking about our upcoming exam, I didn't even see the square, let alone the new store."

From a psychological viewpoint, something very interesting happened here. How can you drive safely and negotiate traffic without consciously noticing where you are? Let's face it (just remember the first few times you drove a car), driving is really quite complicated. You have to carefully look at the road, at the traffic, and in your rearview mirror. You have to slow down in time before a curve, you have to steer, if you are driving a stick shift, you have to change gears. In addition, you have to do all these things more or less simultaneously. How can you do all of those things while thinking about your exam, that is, without any conscious attention directed at the driving?

The answer is that driving (assuming you are skilled and the route is familiar) is a largely *automatic* process. Of course you saw the square when you passed it; otherwise you could not have negotiated it. You cannot drive blindfolded. However, the process of driving through the square is so automatized that a fleeting glance of the square is enough. You do not need to pay conscious attention, and you do not have to interrupt thinking about the exam. In fact, if you drive a familiar route, you usually pay attention only to things that are unexpected. And those are the only things you later remember ("I did notice there was an accident on Main Street").

The Four Horsemen of Automaticity

In the 1970s, psychologists started to distinguish between psychological processes that were automatic and psychological processes that were controlled. Automatic processes are unconscious (i.e., you are not consciously aware of them), efficient (they require no effort), unintentional (you don't have to *want* them to happen), and uncontrollable (once started, you cannot stop them). Controlled processes are the opposite: They are conscious (you have to be consciously aware of them), inefficient (they require effort), intentional (they only happen when you want them to happen), and controllable (you can stop them).

Soon thereafter, psychologists discovered a problem. According to the criteria outlined in the previous paragraph, relatively few psychological processes are

fully automatic and even fewer are fully controlled. There are exceptions of course. If an object (such as a snowball) quickly approaches your face, you close your eyes. This is a reflex and it is fully automatic. It does not require conscious awareness, it does not require any effort, it is unintentional, and also uncontrollable (you cannot stop it). Conversely, writing is fully controlled. You need to be aware of it, it requires effort, it is intentional and controllable. However, most interesting psychological processes have both automatic and controlled elements. Think again about driving. If you are a skilled driver driving a familiar route, driving can be mostly unconscious (except when something unexpected happens). It is also highly efficient as you can easily have an interesting conversation with someone while you drive—that is, the driving does not require effort. However, it is intentional. You do not suddenly find yourself driving somewhere. You drive to school or work because you want to go there. Finally, driving is controllable. You can stop the process if you so desire.

As a consequence, according to the psychologist John Bargh, it would be more useful to look at the separate criteria for automaticity (Bargh called them the four horsemen), rather than viewing automaticity and control as all or none concepts.

1. *Conscious versus unconscious.* Some behavior requires conscious attention; other behavior does not and can proceed unconsciously. Obviously, most bodily functions, such as breathing, do not require conscious awareness. However, many psychological processes are unconscious as well. For instance, we automatically categorize objects or people we perceive as good or bad. That is, we possess the capacity of "automatic evaluation." Investigating whether processes require conscious awareness can be done in different ways. The technique used most often in social psychological research is priming. Psychologists surreptitiously present people with stimuli (such as words or pictures). When these stimuli have psychological consequences (such as when a primed stimulus influences an impression formed of a person later on) without people being aware of this influence, psychologists can conclude it is an unconscious process.

2. *Efficient versus inefficient.* Some behavior requires effort and uses what is called "attentional resources." Other behavior does not. The driving example

is useful again. The first few times you drive a car, you need attentional resources to control the car and to navigate traffic. Once you are a skilled driver, however, you do not need attentional resources anymore. The way to investigate whether a process is efficient or not is to have people do it while also performing a secondary task that requires attentional resources (such as memorizing digits or talking). If a process breaks down while one engages in a secondary task, the process is inefficient. If not, it is efficient. A skilled driver can have an interesting conversation with a passenger while driving, because driving has become efficient. A starting driver cannot drive and talk at the same time without running the risk of causing dangerous situations, because driving is still inefficient.

3. *Intentional versus unintentional.* Some behavior only happens when we want it to happen, whereas other behavior unfolds regardless of our desires. Driving is intentional, and so are behaviors such as reading or writing. However, some of the behavior we display during social interactions is unintentional. It has been found that people, without being aware of it, to some extent mimic their interaction partner. If we talk to someone, we often use the same gestures, our bodily postures match, and even our speech patterns converge a little bit. This does not happen because we want it to happen; rather, it is unintentional. One way to find out whether a process is intentional is to see whether it occurs when it has negative consequences. Priming research shows that priming people with a social stereotype leads to behavioral assimilation. For instance, if people are primed with pictures of senior citizens, they become a little slower and more forgetful; if people are primed with professors, they perform better on a general knowledge test. These effects also hold for behaviors that are clearly negative. Priming people with supermodels makes them perform worse on a general knowledge test. This means the effect is unintentional, as no one deliberately wants to come across as stupid.

4. *Controllable versus uncontrollable.* This criterion is relatively simple. Can people stop a psychological process after it has started? If it is stoppable, it is called controllable. Closing your eye when a snowball is about to hit you is uncontrollable. Breathing is too. You can hold your breath for a short while, but not for too long. Reading and talking are controllable. You can stop whenever you want to. Investigating the controllability of a process is relatively easy. See if people can stop an

activity when you ask them to. If so, the process is controllable. If not, the process is uncontrollable.

Automaticity Is Adaptive

There are basically two kinds of automatic processes. Some things, such as reflexes, are automatic simply because of the way humans developed as a species. Other behavior is initially largely controlled (in the sense that it requires conscious awareness and effort) and can become automatic through learning. Driving is again a good example. Another is people's morning routine. Many people think about the day ahead while they take a shower. This is possible because taking a shower is a routine, automatic process. It is efficient, so that we can use attentional resources to do more important things, such as planning our day. This is highly adaptive: The more we can do automatically, the more time we have left for the behaviors that do require conscious awareness and effort.

Ap Dijksterhuis

See also Attention; Auto-Motive Model; Consciousness; Nonconscious Processes; Priming; Scripts; Self-Regulation

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Auto-Motive Model

Definition

The auto-motive model as proposed by John Bargh in 1990 describes the complete sequence of goal pursuit—that is, reaching a goal—as a process taking place outside of conscious awareness and control. The term *motive* is chosen to encompass goals, motives, and values, yet in most cases, research has focused on goals used in a broad sense. The auto-motive model complements self-regulatory models that focus more on the role of conscious goal choice. According to the auto-motive model, a strong mental link is supposed to develop between goals that individuals chronically pursue and cognitive representations of situations. Thus, due to consistent and repeated pairing, goals are automatically activated given a goal-relevant, so-called critical situation. As a consequence, these automatically activated goals direct behavior without intentional or deliberate involvement of the individual. In turn, reflective choice and other controlled influences on behavior can be bypassed. In other words, goals are supposed to be represented in the mind in the same way as stereotypes, schemata, and other social constructs and their activation potential are understood to function in a similar manner. Therefore, they can also be automatically activated by situational features. Procedures and plans to attain the respective goal thus influence subsequent behavior, judgments, and decisions outside of the conscious control of the individual. As an example, a student holding an academic achievement goal returns to campus after a break. Being on campus activates the goal, and the student's behavior now turns more toward studying than parties.

History and Background

Research on perception up to the 1940s considered perception mainly to be a transformation process. Since the "new look" approach after World War II—numerous studies have shown that consciously and unconsciously activated goals of an individual shape the way this person perceives the environment and how this information is interpreted and remembered. The auto-motive model draws on this motivational principle of perceptual readiness (i.e., more attentional resources are given to context information in line with a current activated goal), yet takes the development of the "new look" research toward cognitive approaches into account. Under this later "new look" perspective, schemata, or stereotypes, were understood to function in a way similar to goals and values in the early days of the "new look." The model introduced by Bargh bridges the two, motivational and cognitive, perspectives by proposing that much human behavior is guided by goals automatically activated through situational features, similar to cognitive activation effects (e.g., stereotypes). Central to the auto-motive model is the assumption that the situational cues for these motives rest in the unconscious as well.

Automatic Response Activation According to the Auto-Motive Model

The actual auto-motive model is quite complex and describes several paths for automatic responses to environmental features to occur. In general, automatic goal activation can happen by means of three different routes. First, situational features can activate goals and motives if a consistent pairing preexists between the situational cues and the goal. The activated goals and motives are idiosyncratic in their character, that is, specific to the individual in his or her chronic attainment. Second, situational features can directly activate socially shared norms beyond an idiosyncratic level. In other words, strong normative goals are being activated, too. The third route includes other individuals one is interacting with in the given situation. Thus, the activation does not depend on the situational setting alone, but on the goals and intentions of the interaction partners as well. In this case, perceived goal representations of the interaction partner are being activated. Given these three pathways, the subsequent steps toward behavior are quite different. Within the first route, situational cues lead to an activation of an individual goal: Either goal-relevant procedures or plans are activated. Plans lead to automatic response behavior, whereas procedures influence judgments and decisions. Within the second route, a more global normative activation results in plans that again activate response behavior. For the third path, the route to response behavior is a little more complex because it includes cognition about a third person. The activation of the goal representation of an interaction partner leads to an activation of personal, rather individual reactive goals. It is these goals that activate goal-related plans, which in turn activate corresponding behavior. The reason why the third path is comparatively more complex than the first two is due to the fact that while one can assume an automatic link between environmental features and situational representation, behavioral information of others is much more ambiguous relative to the perceived goal of the interaction partner. Put differently, the individual goal activation depends on the accessibility and applicability of the different possible goals of the interaction partner. Once this perceived goal has been defined, one's own response goal is assumed to be activated immediately. This response goal activation is flexible and is dependent on the most accessible and best applicable perceived goal representation.

As one can easily see, the model encompasses three distinct routes to judgmental or behavioral responses. Depending on the features of the social environment, one of these automatic paths is being utilized.

Empirical Evidence

The auto-motive model—as described in the previous section—cannot be tested in its full extent, nor is it designed to be tested, as one would expect from a theory. Yet there are many research questions that have been influenced and instigated by the auto-motive model, and research addressing them has provided abundant evidence for each of the three paths to automatic behavior. Above and beyond the general influence of goals on perception, there is evidence for auto-motives in person and group judgment and in interpersonal interaction.

The influence of auto-motives on perception can be tied nicely to early work in the "new look." It was shown that words describing values participants had previously indicated to hold were recognized faster than words irrelevant to participants' goals and values. More recent research revealed, for example, that individuals who can be labeled as chronic egalitarians recognized words relevant to egalitarianism faster, if they were preceded by a goal-relevant stimulus. In the case of this particular experiment, pictures of African Americans and Caucasians were used as stimuli of which only the pictures of African Americans automatically triggered the chronic goal of egalitarianism for the respective individuals. These participants then showed lower response latencies to relevant target words. In line with the auto-motive model, a specific context activated a chronic goal (i.e., egalitarianism). Given this activation, these goals facilitate what an individual is more ready to perceive and what not.

But auto-motives also function beyond perceptual readiness; they can also influence how people judge other people or nonsocial objects. The body of research in this field is vast, and there is substantial converging evidence. Certain instrumental values or standards not only filter what people perceive in the world around them, they also determine people's interpretation of it. On a more general societal level, goals and values can be embedded in the structure of stratified societies. To sustain this social structure, impressions and social judgments are made in line with the prevailing maintenance goal for the social dominance stratification to which individuals adhere.

Auto-motives also influence interpersonal interaction in very peculiar ways. So far, automatic goal activation within the auto-motive model has been understood to result from context cues and information paired with chronic goals. Recently, evidence has been found for goal activation by human beings close to the individual actor, for example, by a parent or a partner. If, for example, an academic achievement goal is linked to fulfilling the wish of one's father, then the activation of the mental representation of the father can activate the related achievement goal. Another auto-motive is the so-called chameleon effect describing mimicry behavior. This nonconscious imitation is especially pronounced for individuals with a strong perspective-taking ability (i.e., being able to understand the ideas, perceptions, and feelings of another person). For them, interaction partners serve as triggers for their chronic perspective taking, which in turn leads to automatic and uncontrolled imitation behavior (e.g., rubbing your nose or shaking you foot). However, interpersonal relationships do not always have to be characterized by imitation. An intimacy versus an identity goal that is chronically accessible for an individual determines how this person approaches interpersonal relationships, either as a means for interdependence and mutual responsibility or as a constant source for self-verification and establishment of an individual identity.

In sum, the research described in this entry provides sufficient evidence supporting the auto-motive model. It is clear that aspects of detail may be subject to alternative interpretations, but overall the auto-motive model provides a sound background for research describing automatic responses to the environment. It has fused early research on motivated perceptual readiness with later approaches addressing more cognitive activation effects into one comprehensive model with the central tenet that goal activation and response behavior activation can happen unconsciously given a chronic association of the goal with a set of perceived environmental features.

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See also Accessibility; Automatic Processes; Goals; Self-Regulation

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Autonomy

The term *autonomy* literally means "self-governing" and thus connotes regulation by the self (auto). Its opposite, *heteronomy,* refers to regulation by "otherness" (heteron) and thus by forces "other than," or alien to, the self. In short, autonomy concerns the extent to which a person's acts are self-determined instead of being coerced or compelled.

Within the field of psychology, the concept of autonomy is both central and controversial. Autonomy is central in that developmental (child), personality, and clinical psychologists have long considered autonomy to be a hallmark of maturation and healthy or optimal functioning. It is controversial in that the concept of autonomy is often confused with concepts such as independence, separateness, and free will, generating debates concerning its relevance and import across periods of development, gender, and individualist versus collectivist cultures.

The issue of autonomy was originally imported into social psychology through the work of Fritz Heider and Richard deCharms. Heider argued that it is people's "naive psychology" (their intuitive understanding) that determines how they interpret events and therefore how and why they act as they do. Among the most important dimensions within his naive psychology was Heider's distinction between *personal causation*, in which behaviors are intended by their authors, and *impersonal causation*, in which actions or events are brought about by forces not in personal control. Heider reasoned that individuals usually hold people responsible only for behaviors that they personally caused or intended. Subsequently, deCharms elaborated on Heider's thinking by distinguishing two types of personal causation. Some intentional acts are ones a person wants to do and for which he or she feels initiative and will. These are actions deCharms said have an *internal perceived locus of causality*. Other intentional behaviors are attributed to forces outside

the self, and these have an *external perceived locus of causality.*

Self-determination theory is a contemporary perspective that builds upon the Heider and deCharms tradition with a comprehensive theory of autonomy as it relates to motivation. Self-determination theory specifically defines autonomy as the self-determination of one's behavior; autonomous action is behavior the actor stands behind and, if reflective, would endorse and value. That is, autonomy represents a sense of volition, or the feeling of doing something by one's own decision or initiative. The opposite of autonomous action is *controlled motivation,* in which behavior is experienced as, brought about, or caused by forces that are alien or external to one's self. Controlled actions are those a person does without a sense of volition or willingness.

Any behavior can be viewed as lying along a continuum ranging from less to more autonomy. The least autonomous behaviors are those that are motivated by externally imposed rewards and punishments. Externally regulated actions are dependent on the continued presence of outside pressure or reinforcements and thus, in most contexts, are poorly maintained. A student who does homework only because parents reward him or her for doing so is externally regulated but not very autonomous. When the rewards stop, the effort on homework may also fade. Somewhat less controlled are *introjected regulations,* in which a person's behaviors are regulated by avoidance of shame and guilt and, on the positive side, by desires for self- and other-approval. When a teenager refrains from cheating because he or she would feel guilty, this would be introjected, because the teenager is controlling him- or herself with guilt. Still more autonomous are *integrated regulations,* in which the person consciously values his or her actions and finds them fitting with his or her other values and motives. A person who acts from a deeply held moral belief would be acting from an integrated regulation and would feel very autonomous. Finally, some behaviors are *intrinsically motivated,* which means they are inherently fun or enjoyable. A person who plays tennis after school just for fun is intrinsically motivated and would feel autonomous in doing it.

Several theorists in social and personality psychology have suggested that autonomy is a basic psychological need. This is because in general, when people behave autonomously, they feel better and perform better. Lack of autonomy makes people lose interest in their work and can even make them sick. Accordingly, factors that support autonomy can enhance not only the quality of motivation but also the individual's overall adjustment.

Many studies demonstrate how social events can affect perceived autonomy and, in turn, people's ongoing motivation. When parents, teachers, or bosses use rewards to control behavior, pressure people with evaluations, take away their choices, or closely watch over them, people typically feel controlled. Conversely, when authorities provide others more choice, allow them to express opinions and make inputs, and provide positive and noncritical feedback, they foster greater autonomy and enhance motivation and persistence.

The topic of how external rewards can affect people's autonomy has been very extensively studied and is very controversial, because it is a very important issue in settings such as work, school, and family life. Studies show that when rewards are administered in a manner intended to control the behavior or performance of recipients, they typically undermine a sense of autonomy and thus diminish both interest and intrinsic motivation. Thus, a child who is learning to play a new musical instrument might become less interested after someone gives her a reward for playing. Now the child would only want to play if again rewarded, which means the child is less intrinsically motivated. However, rewards can also be used in noncontrolling ways, such as when they are given unexpectedly or as an acknowledgement of competence; when given in this way, rewards usually do not undermine autonomy.

As noted previously, autonomy is a concept that is often confused with independence. One simple way to distinguish these ideas is to think of *independence* as not relying on others for resources or supports, whereas *autonomy* concerns how volitional or self-determined one is. Thus, people can be autonomously or willingly dependent, as when they choose to rely on someone else for help. People can also be forced to rely on somebody else, in which case they would lack autonomy. Similarly, one can be heteronomously independent, as when forced to "go it alone," or autonomously independent, as when one desires to do something by oneself, without getting help.

Distinguishing autonomy from independence is especially critical for developmental and cross-cultural studies. For example, research has suggested that adolescents who autonomously rely on parents tend to be better adjusted than those who are more detached

or independent of parents. It is also clear that cultures differ greatly in values regarding independence, with individualist cultures placing greater value on people acting independently and collectivist cultures more focused on interdependence. Research suggests, however, that whether a person engages in individualist or collectivist practices, it still matters whether or not they feel autonomous. It appears that people in all cultures feel better when they are acting choicefully, even though what they normatively do may differ. This is why people around the world often fight for freedoms and the right to pursue what they truly value.

Similarly, autonomy is not associated with *separateness.* Separateness refers to a lack of connection with close others. People can be very autonomously connected with others, as when they love someone and want to be close to that person. Indeed, people are often very autonomous in trying to connect with and take care of people they love.

Another important distinction is between autonomy and *free will.* Free will, by most interpretations, involves some notion of an undetermined action, or action that is caused by a soul or self that is completely independent of an environment. Autonomy, in contrast, does not have these implications. Most social scientists believe that all behaviors have an impetus or cause either within the organism or its environment. But even if all actions are caused in this sense, they can still vary considerably in the degree to which they are volitional or autonomous.

Practical applications of research on autonomy can be found everywhere. Insofar as people who are acting autonomously are more persistent, perform better, and are more adjusted, it becomes important to identify factors in the real world that facilitate autonomy. Thus there has been a lot of research on how to support autonomy in domains such as education, sport, work, health care, and psychotherapy. Across domains, both the structure of incentives and supervision styles have been shown to influence autonomy and the positive outcomes associated with it.

Autonomy also is something that can be cultivated from within. Because autonomy concerns regulating behavior through the self, it is enhanced by a person's capacity to reflect and evaluate his or her own actions. One can learn to engage in reflection that is free, relaxed, or interested, which can help one to avoid acting from impulse or from external or internal compulsion. Within self-determination theory, such reflective processing is characterized by the concepts of awareness and *mindfulnes*s. Greater mindfulness can help people be clearer about why they are acting as they are and can provide information that helps them subsequently act with more sense of choice and freedom.

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See also Control; Self-Determination Theory

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AVAILABILITY HEURISTIC

Definition

The availability heuristic describes a mental strategy in which people judge probability, frequency, or extremity based on the ease with which and the amount of information that can be brought to mind. For example, people may judge easily imaginable risks such as terrorist attacks or airplane crashes as more likely than the less easily imaginable (but objectively more likely) risks of influenza or automobile accidents.

Context, Consequences, and Causes

Availability was one of three judgmental heuristics (or mental shortcuts), along with representativeness and anchoring and adjustment, that Amos Tversky and

Daniel Kahneman hypothesized people adopt to simplify complex judgments. Because information about events that are more likely, frequent, or extreme is typically more available than information about events that are less likely, frequent, or extreme, the availability heuristic typically yields accurate judgments. However, the heuristic can also produce biased and erroneous judgments—as illustrated by people's perception that terrorist bombings are more risky than influenza—because cognitive availability can be influenced by factors, such as media coverage or vividness, that are unrelated to probability, frequency, or extremity.

Researchers believe that the availability heuristic is partly responsible for several judgmental biases. People who live together, for instance, tend to claim too much responsibility for collaborative efforts such as washing dishes and starting arguments, partly because it is easier for people to think about their own contributions than to think about their cohabitants' contributions. People also overestimate the magnitude of the correlation between clinical diagnoses (e.g., depression) and invalid diagnostic tests (e.g., drawing a frowning face), because diagnoses and tests that go together are more available than unrelated diagnoses and tests.

Researchers distinguish between two aspects of availability: the amount of information retrieved (e.g., the number of terrorist bombings) and the subjective experience of retrieving information (e.g., the perceived ease with which people can remember terrorist bombings). The amount of information retrieved and the experience of retrieving information often are confounded; that is, information that is more plentifully retrieved is also more easily retrieved. In a series of experiments, Norbert Schwarz and colleagues demonstrated that the experience of retrieving information influences judgments independent of—and sometimes in spite of—the amount of information retrieved. In one experiment, participants were asked to list either three or nine examples of chronic diseases. Participants who listed three examples judged chronic diseases to be more prevalent than those who listed nine examples because listing three examples is easier than listing nine examples even though three is less than nine.

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See also Anchoring and Adjustment Heuristic; Illusory Correlation; Representativeness Heuristic

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AVERSIVE RACISM

Definition

Aversive racism is a form of contemporary racism that, in contrast to the traditional form, operates unconsciously in subtle and indirect ways. Aversive racists regard themselves as nonprejudiced but, at the same time, harbor negative feelings and beliefs about members of minority groups. Aversive racism was originally hypothesized to characterize the attitudes of many well-educated and liberal Whites in the United States, toward Blacks, but the basic principles apply to the attitudes of members of dominant groups toward minority groups in other countries with strong contemporary egalitarian values but discriminatory histories or policies. Despite its subtle expression, aversive racism has resulted in significant and pernicious consequences, in many ways paralleling the effects of traditional, overt racism (e.g., in the restriction of economic opportunity).

Nature of the Attitudes

Like other forms of contemporary racism, such as symbolic and modern racism (which focus on people with conservative values), the aversive racism framework views contemporary racial attitudes as complex. A critical aspect of the aversive racism framework is the conflict between positive aspects of people's conscious attitudes, involving the denial of personal prejudice, and underlying unconscious negative feelings toward, and beliefs about, particular minority groups. Because of current cultural values in the United States, most Whites have strong convictions concerning fairness, justice, and racial equality. However, because of a range of normal cognitive, motivational, and

sociocultural processes that promote intergroup biases, most Whites also develop some negative feelings toward, or beliefs about, Blacks, of which they are unaware or which they try to dissociate from their non-prejudiced self-images. These processes include the spontaneous categorization of people as ingroup and outgroup members on the basis of race (and the associated cognitive biases), motivations for status for oneself and one's group, and sociocultural processes that promote stereotypes and system-justifying ideologies. Consistent with the aversive racist framework, Whites' conscious (explicit) and unconscious (implicit) attitudes are typically dissociated.

Subtle Bias

The aversive racism framework also identifies when discrimination against Blacks and other minority groups will or will not occur. Because aversive racists consciously endorse egalitarian values, they do not discriminate in situations with strong social norms, which would make discrimination obvious to others and to themselves. In these contexts, aversive racists are especially motivated to avoid feelings, beliefs, and behaviors that could be associated with racist intent. However, aversive racists also possess unconscious negative feelings and beliefs, and these feelings are typically expressed in subtle, indirect, and easily rationalized ways. Aversive racists discriminate in situations in which normative structure is weak or when they can justify or rationalize negative responses on the basis of factors other than race. Under these circumstances, aversive racists engage in behaviors that ultimately harm Blacks but in ways that perpetuate their nonprejudiced self-image. In addition, aversive racism often involves more positive reactions to Whites than to Blacks, reflecting a pro-ingroup rather than an anti-outgroup orientation, thereby avoiding the stigma of overt bigotry and protecting a nonprejudiced self-image.

Evidence in support of the aversive racism framework comes from a range of paradigms, including studies of helping behavior, selection decisions, juridic judgments, and interracial interaction. For example, in personnel or college admission selection decisions, Whites do not discriminate on the basis of race when candidates have very strong or weak qualifications. Nevertheless, they do discriminate against Blacks when the candidates have moderate qualifications and the appropriate decision is therefore more ambiguous. In

these circumstances, aversive racists weigh the positive qualities of White applicants and the negative qualities of Black applicants more heavily in their evaluations, which provide justification for their decisions. In interracial interactions, Whites' overt behaviors (e.g., verbal behavior) primarily reflect their expressed, explicit favorable racial attitudes, whereas their more spontaneous and less-controllable behaviors (e.g., their nonverbal behaviors) are related to their implicit, generally more negative, unconscious attitudes.

Combating Aversive Racism

Traditional prejudice-reduction techniques have been concerned with changing old-fashioned racism and obvious expressions of bias. However, traditional techniques that emphasize the immorality of prejudice are not effective for combating aversive racism; aversive racists recognize that prejudice is bad, but they do not recognize that *they* are prejudiced.

Nevertheless, aversive racism can be addressed with techniques aimed at its roots at both individual and collective levels. At the individual level, strategies to combat aversive racism can be directed at unconscious attitudes, for example, with extensive training to create new, counterstereotypic associations with Blacks. In addition, because aversive racists consciously desire to be egalitarian, inducing aversive racists to become aware of their unconscious negative attitudes motivates them to try to inhibit their bias in both thoughts and action.

At the intergroup level, interventions may be targeted at changing the ways people categorize others. One such approach, the common ingroup identity model, proposes that if members of different groups (e.g., Whites and Blacks) think of themselves in terms of shared group identities (e.g., as Americans), intergroup attitudes will improve. Under these circumstances, pro-ingroup biases will be redirected to others formerly seen as outgroup members thereby producing more positive feelings toward them and reducing intergroup bias. Many of the conditions outlined by the contact hypothesis and other anti-bias interventions reduce bias, at least in part, by creating a sense of a common ingroup identity.

Summary

Although aversive racism is expressed in indirect and easily rationalized ways, it operates to systematically

restrict opportunities for Blacks and members of other traditionally underrepresented groups, contributes to miscommunication between groups, and fosters a climate of interracial distrust. Understanding the nature of aversive racism can help contribute to policies that inhibit its effects (e.g., by focusing responsibility on decision makers) and help identify new techniques for eliminating unconscious bias.

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See also Prejudice; Racism; Stereotypes and Stereotyping

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Awe

Definition

Awe refers to an intense emotional response people may have when they encounter an object, event, or person that is extraordinary. Things that elicit awe are typically vast in size, significance, or both. Frequent elicitors of awe include nature, natural disasters, grand architecture and historical ruins, supernatural or spiritual experiences, scientific or technological marvels, childbirth, and being in the presence of powerful or celebrated individuals.

Awe involves some degree of surprise, disbelief, or disorientation as one strives to assimilate the presence of the extraordinary and make it conform to one's expectations, prior experiences, and beliefs about what is possible. Quite often, awe results in the need to alter existing belief structures—sometimes in profound and life-changing ways—to accommodate the experience and its implications. This process of change and reorientation may take moments or days and can range in tone from pleasant to terrifying, depending on the situation and the individual's personality.

The roots of the word *awe* lie in Germanic words for fear and terror, and early religious uses of *awe* almost always involve fear (as the result of interactions with the Divine). In modern times, however, the word *awe* is used most often to describe experiences that are positive.

History and Context

Awe has long been associated with religious traditions, which typically emphasize the life-transforming aspects of awe. Numerous religious texts tell stories that center around a moment of awe in the transformation of an ordinary person into a saint, prophet, or hero (e.g., St. Paul in the New Testament, Arjuna in the Bhagavad Gita). Upon recovery from the experience, the awe-inspired individuals then go forth and spread word of it, often performing great deeds or miracles that induce awe (and awe-inspired changes) in those who witness or (more typically) hear about them. In modern times, a central moment of awe appears frequently in the religious conversion narratives analyzed by William James in *The Varieties of Religious Experience.* Indeed, the experience of awe is often so transformative that many people find it fitting to speak of having been "born again" into a new and more harmonious configuration of self.

Some 60 years after William James, Abraham Maslow made major contributions to the literature on awe. Maslow spent years analyzing people's reports of their encounters with the extraordinary. Maslow used the term *peak experience* to refer to these moments of deep insight and awe, during which new perspectives are revealed to people. Maslow maintained that all humans are capable of having peak experiences, although some appear to be more prone to them than others. He referred to such people as *Peakers* (as opposed to *non-Peakers*) and speculated that they were likely to have greater well-being, deeper relationships, and more meaning in life—predictions that continue to be of great interest to contemporary research psychologists. Maslow also maintained that non-Peakers could learn to become more like Peakers.

Maslow compiled a list of 25 of the most common aftereffects of peak experiences. Included are lack of concern about the self, decreased materialism, feelings of overwhelming positivity (including feelings that the world is good and desirable), transcendence of dichotomies, and increased receptivity to change.

Awe in Contemporary Society and Psychological Research

Awe, and the pursuit of awe, is a major influence on contemporary culture and the world's economies. People spend billions of dollars per year to visit exotic islands, sacred ruins, grand cathedrals, castles, and national parks. They climb mountains, ride in hot air balloons, sky dive, scuba dive, and take their wide-eyed children to Disney's Magic Kingdom. One of the best illustrations of the relevance of awe to contemporary culture may be found in Hollywood. A content analysis of the top 100 highest-grossing movies of all time indicates that epic, awe-eliciting movies (such as *Lord of the Rings* or *Star Wars*) account for an inordinately high percentage of the top 50 (relative to the bottom 50). Awe is indeed a draw.

While the pursuit of awe has long been a popular pastime, empirical work on awe within the field of psychology is in its infancy. Most of what is known about awe comes from people's retrospective reports of their experiences. Although such methods can add much to researchers' knowledge of awe (as was the case with James's and Maslow's work), experiments that use random assignment and adequate control conditions are typically preferable. Several emotion theorists have justified the paucity of research on awe by arguing that awe is not a "basic" emotion and is therefore less worthy of attention than are other emotions. The term *basic emotion* refers to those six emotions (anger, disgust, fear, joy, sadness, and surprise) that have been shown to have a universal facial expression. Numerous emotions not determined to be basic (e.g., love, guilt, shame, and gratitude) have, however, received ample attention within the psychological literature.

One impediment to the experimental study of awe has been the difficulty of eliciting awe in a laboratory setting. Recent technological advances have, however, made such an undertaking more feasible. Research psychologists are currently using digital video, large screen televisions, vast environments, and virtual reality to begin to elicit awe in the lab and study it experimentally with random assignment and adequate control conditions.

Work has also begun to investigate individual differences in responsiveness to awe. A recent theoretical paper by Dacher Keltner and Jonathan Haidt proposes that individuals who are highly responsive to beauty, nature, and human excellence may also be more responsive to awe experiences and may be more likely to seek them. Like the people Maslow dubbed Peakers, those with higher responsiveness are expected to experience greater overall well-being and be more resilient to stress.

Compelling stories about the unique and powerful ability of awe to make people more malleable and receptive to change (both personal and societal) have been documented for millennia. It is only now, however, that research psychologists are beginning to catch up with thinkers in philosophy and religion in studying the emotion of awe.

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See also Emotion; Search for Meaning in Life

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B

BABYFACENESS

Definition

Babyfaceness refers to a configuration of facial qualities that differentiates babies from adults. A baby's head is characterized by a large cranium with a perpendicular forehead and small lower face with a receding chin. Compared with adults, babies also have relatively large eyes, full cheeks, fine eyebrows, and a "pug" nose. Although the appearance of babies defines babyish facial qualities, babyfaceness is not synonymous with age. At every age level, including infancy and older adulthood, some individuals are more babyfaced than others. Thus, a more babyfaced adult could be younger or older than one who is more maturefaced. More babyfaced individuals share certain features with babies, such as rounder faces, larger eyes, smaller noses, higher foreheads, and smaller chins. There are babyfaced and maturefaced individuals of both sexes, although women's facial anatomy tends to resemble that of babies more than men's does. Babyfaced individuals also are found among people of all racial backgrounds, which is consistent with the fact that the differences in facial appearance between babies and adults are similar for all humans. Indeed, there are even some similarities across species.

Context and Importance

Recognizing babies and responding appropriately to them has had great evolutionary importance. Those who didn't do so were certainly less likely to have passed their genes on to the next generation. Thus we have evolved a ready recognition of babies' distinctive appearance qualities that generalizes to people of all ages who resemble babies. There is high agreement in perceiving some adults as more "babyfaced" than others. Moreover, people can recognize babyish facial features in a racially unfamiliar person just as well as in someone from their own group. The ability to identify babyfaced individuals develops at an early age. Not only can infants differentiate babies from older individuals, but also they discriminate between babyfaced and maturefaced people of the same age by showing a preference for looking at the more babyfaced person. Young children are able to show their keen sensitivity to variations in babyfaceness with words. When shown two photographs of young adults and asked which one looks "most like a baby," children as young as 3 years old tended to choose the same face that college students judged as the more babyfaced of the two.

Individuals who resemble babies experience effects far more significant than just being labeled babyfaced. Just as babies deter aggression and elicit warm, affectionate, and protective responses, babyfaced individuals of all ages elicit unique social interactions. These derive from the tendency to perceive them as having more childlike traits, including naïveté, submissiveness, physical weakness, warmth, and honesty.

A sense that babyfaced individuals should be protected from those who are more maturefaced is revealed in the finding that more babyfaced plaintiffs in small claims court are awarded more compensation from maturefaced than babyfaced perpetrators. Other evidence of stronger protective responses to babyfaced

individuals is provided by the finding that people who find a lost letter with a resume enclosed are more likely to return it when the photo on the resume shows a babyfaced than a maturefaced person. A sense that babyfaced individuals are naïve is revealed in the finding that adults speak more slowly when teaching a game to babyfaced 4-year-olds than when teaching the same game to more maturefaced 4-year-olds and in the finding that adults assign less cognitively demanding chores to babyfaced than maturefaced 11-year-olds. The perception that babyfaced individuals are submissive is revealed in the finding that they are less likely to be recommended for jobs requiring leadership than are equally qualified maturefaced job applicants. On the other hand, those who are more babyfaced are more likely to be recommended for jobs requiring warmth. A job applicant's babyfaceness made as much of a difference in job recommendations as the applicant's sex, and the actual jobs that people held were influenced as much by their babyfaceness as by their personality traits, further demonstrating the power of babyfaceness to influence social outcomes.

The perception of babyfaced individuals as more honest and naïve than their maturefaced peers has significant consequences for their judged culpability when accused of wrongdoing. Adults perceive the misbehavior of babyfaced children as less intentional than the same misdeeds by maturefaced children of the same age. Similarly, babyfaced adults are less likely to be convicted of intentional crimes than their maturefaced peers. In contrast, babyfaced adults are more likely to be convicted of negligent crimes, consistent with stereotyped perceptions of their naïveté. These effects have been found not only in laboratory experiments but also in actual trials in small claims courts. Interestingly, when babyfaced adults or children admit committing intentional wrongdoing, they are punished *more* severely than the maturefaced, whereas they are punished less severely for acknowledged negligent acts. It seems that others react more harshly to people's negative behavior when their appearance makes that behavior very unexpected.

One might wonder whether babyfaced individuals actually have the traits that others expect. Although others' expectations may sometimes elicit confirming behavior from babyfaced individuals in a particular social interaction, evidence suggests that babyfaced people do not reliably show the expected traits. Indeed, there are documented differences between babyfaced and maturefaced people that are *opposite* to the stereotypes. More babyfaced young men tend to be more

highly educated, contrary to impressions of their naïveté, more assertive and likely to earn military awards, contrary to impressions of their submissiveness and weakness, and more likely to be juvenile delinquents when they come from a high risk population, contrary to impressions of their honesty. Although these differences are small, they still call for an explanation. One possibility is that babyfaced young men try so hard to refute others' stereotypes of them that they overcompensate.

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See also Evolutionary Psychology; Halo Effect; Stereotypes and Stereotyping

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BAD IS STRONGER THAN GOOD

Definition

Bad is stronger than good refers to the phenomenon that the psychological effects of bad things outweigh those of the good ones. Bad usually refers to situations that have unpleasant, negative, harmful, or undesirable outcomes for people, while good usually refers to situations that have pleasant, positive, beneficial, or desirable outcomes for people. Bad things have stronger effects than good things for virtually all dimensions of people's lives, including their thoughts, their feelings, their behavior, and their relationships. Few topics in social psychology have approached the generality and validity of bad is stronger than good across such a broad range of human behavior.

Context and Importance

The bad is stronger than good phenomenon is at the heart of a centuries-old debate, namely, the relative importance of good and bad forces in the struggle of

humankind. History is replete with stories on gods and devils fighting to get the upper hand on humanity. In everyday life, people are confronted with a continuous battle between what is good and what is bad. These battles may concern important issues, for example, behaving altruistically, such as by missing an important interview to help a friend, versus behaving selfishly, such as by refusing to help a friend to attend the interview that may double one's salary. They may also concern mundane issues, such as eating a healthy meal versus devouring a meal at one's favorite junk food restaurant, staying sober versus drinking a glass of beer, or studying for one's exam versus going out with one's friends. Reflecting its importance in people's lives, almost everybody, even little children, know the difference between what is good and what is bad.

What form does this eternal struggle take in social psychology? Ample research in social psychology provides evidence showing that bad is stronger than good. That is, negative events have a greater impact on us than positive events. For example, people are more distressed by the loss of $50 than they are made happy by finding $50. This does not necessarily mean that bad will triumph over good. Some researchers suggest that good may prevail over bad by outnumbering it. To illustrate, within good, lasting relationships, friends and intimate partners have approximately five good interactions for each negative interaction. Thus, many good interactions can override the negative effects of one bad interaction. Given equal numbers of good and bad, however, the effects of bad ones are generally stronger than those of the good ones.

The most recognized reason that bad is stronger than good is evolutionary. Organisms that are attuned to preventing bad things are suggested to flourish and thrive more than those oriented primarily toward maximizing good things. A person who ignores the danger of fire may not live to see the next day. A person who ignores the pleasures of a fun night out may lose nothing but that, a fun night out. People's survival and well-being thus seem to require more urgent attention to avoiding bad outcomes than to approaching good outcomes.

Evidence

A broad variety of evidence confirms the relative strength of bad over good. Probably the strongest evidence is provided by research on relationships. Initially, it was argued that human beings have a fundamental need to belong, their central task and goal in life being to sustain a network of close, positive, and long-lasting relationships. As it turned out, however, the need to belong does not concern a need for positive interactions as much as a need for non-negative interactions. A closer look at the evidence from relationship research does indeed suggest that the harmful effects of bad relationship characteristics outweigh the beneficial effects of good characteristics of relationships. Typically, in studies on relationships, couples are videotaped for about 15 minutes during which they talk about various topics such as their marital problems or how their day went. Couples' verbal and nonverbal behavior during these interactions is registered and coded as positive or negative.

Reflecting the principle that bad is stronger than good, the findings generally show that the presence or absence of negative behaviors is more strongly related to the quality of a relationship than the presence or absence of positive behaviors. Thus, increasing positive behaviors will affect the relationship less strongly than decreasing the negative behaviors. This has been found in longitudinal studies, daily interactions among spouses, parents, and parents and children. Thus, based on bad is stronger than good, advice for good relationships is not "do the good things" but "do not do the bad things."

Overall the evidence is clear and consistent that bad is stronger than good within relationships. However, bad is stronger than good is not just a relational phenomenon, but reflects a general principle among a broad range of psychological phenomena. For instance, research on how people form impressions of others has found that negative information receives more attention, is processed more thoroughly, and contributes more strongly to an impression than does positive information. Similarly, in the language of emotions and emotion-related words, there is consistent evidence that humans have many more (one-and-a-half times more) words for negative emotions than for positive emotions. With respect to self-esteem, perceptions of rejections appear to be much more important to people's self-esteem and sense of worth than perceptions of acceptance. Research on affective forecasting shows that people overestimate the enduring impact of negative events much more than they overestimate the effect of positive events. As a final example, threatening faces in a crowd are more rapidly detected than are smiling faces.

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Balance Theory

Definition

Balance theory describes the structure of people's opinions about other individuals and objects as well as the perceived relation between them. The central notion of balance theory is that certain structures between individuals and objects are balanced, whereas other structures are imbalanced, and that balanced structures are generally preferred over imbalanced structures. Specifically, balance theory claims that imbalanced structures are associated with an uncomfortable feeling of negative affect, and that this negative feeling leads people to strive for balanced structures and to avoid imbalanced structures. An example for a balanced structure is when your best friend also likes your favorite rock band; an example for an imbalanced structure is when your best friend dislikes your favorite rock band. According to balance theory, the first case makes you feel good, whereas the second case creates an uncomfortable tension.

Theoretical Assumptions

The original formulation of balance theory was designed to describe the pattern of relations between three individuals. Such relation patterns between three objects or individuals are often referred to as "triadic" relations. From a general perspective, a triadic relation between three individuals includes (a) the relation between a first person A and a second person O, (b) the relation between the second person O and a third person X, and (c) the relation between the first person A and the third person X (also described as A-O-X triad). In addition, it is assumed that the specific relations between two individuals can be positive (i.e., the two individuals like each other) or negative (i.e., the two individuals dislike each other). According to

balance theory, a triad is balanced when it includes either no or an even number of negative relations. In contrast, a triad is imbalanced when it includes an odd number of negative relations. For example, the resulting triad of relations between Peter, John, and Paul would be balanced if (a) Peter likes John, John likes Paul, and Peter likes Paul; (b) Peter likes John, John dislikes Paul, and Peter dislikes Paul; (c) Peter dislikes John, John likes Paul, and Peter dislikes Paul; or (d) Peter dislikes John, John dislikes Paul, and Peter likes Paul. However, the resulting triad would be imbalanced if (a) Peter dislikes John, John likes Paul, and Peter likes Paul; (b) Peter likes John, John dislikes Paul, and Peter likes Paul; (c) Peter likes John, John likes Paul, and Peter dislikes Paul; or (d) Peter dislikes John, John dislikes Paul, and Peter dislikes Paul.

Even though balance theory was originally developed to explain patterns of interpersonal relations, it has also been applied to study attitudes and opinions about objects. For example, a triad including Sarah, Alice, and country music would be balanced if Sarah likes Alice, Alice likes country music, and Sarah also likes country music. However, the resulting triad would be imbalanced if Sarah likes Alice, Alice likes country music, but Sarah dislikes country music.

Over and above these assumptions for personal sentiments, balance theory assumes that a positive relation can also result from the perception that two objects or individuals somehow belong together. Conversely, a negative relation can result from the perception that two objects or individuals do not belong together. Such kinds of relations are typically called "unit relations." Positive unit relations can result from any kind of closeness, similarity, or proximity, such as membership in the same soccer team, similar hair style, or same ethnic background. In contrast, negative unit relations can result from distance, dissimilarity, or distinctness, such as membership in different soccer teams, different hair style, or different ethnic background.

Evidence

The distinction between balanced and imbalanced triads has been shown to have important implications for a variety of different domains. First, research has shown that the uncomfortable feeling associated with imbalanced patterns influences the formation of new attitudes. Specifically, it has been demonstrated that newly formed attitudes usually complete triadic relations in a manner such that the resulting triad is

balanced rather than imbalanced. For example, if Sarah learns that a yet unknown individual is liked by her friend Alice, Sarah will form a positive attitude toward this individual. However, if Sarah learns that the same individual is disliked by her friend Alice, Sarah will form a negative attitude toward this individual.

Second, research has demonstrated a general superiority in memory for balanced as compared to imbalanced information. For instance, people show higher accuracy in recalling balanced patterns such as "Peter likes John, John dislikes Paul, and Peter dislikes Paul." However, people show lower accuracy in recalling imbalanced patterns such as "Peter likes John, John dislikes Paul, and Peter likes Paul." This difference in memory performance is even more pronounced when the triad includes the perceiver (e.g., "I like John, John dislikes Paul, and I dislike Paul").

Third, balance principles have been shown to have important implications for people's identity and the way people feel about themselves. Research in this area has shown that mental associations between the self and a particular group, evaluations of this group, and personal evaluations of oneself typically show patterns that can be described as balanced rather than imbalanced. For instance, if a Black person has a strong mental association between the self and the category Black, and in addition shows a positive evaluation of the category Black, this person will also exhibit a positive self-evaluation (i.e., "I'm Black, Black is good, therefore I'm good"). However, if a Black person has a strong mental association between the self and the category Black, but shows a negative evaluation of the category Black, this person will likely exhibit a negative self-evaluation (i.e., "I'm Black, Black is bad, therefore I'm bad"). According to balance theory, this transfer of evaluations is due to the inherent "unit" between the self and the category Black.

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See also Cognitive Consistency; Cognitive Dissonance Theory

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BARNUM EFFECT

Definition

The Barnum effect refers to personality descriptions that a person believes applies specifically to them (more so than to other people), despite the fact that the description is actually filled with information that applies to everyone. The effect means that people are gullible because they think the information is about them only, when in fact the information is generic.

History and Modern Usage

The Barnum effect came from the phrase by the circus showman P. T. Barnum who claimed a "sucker" is born every minute. Psychics, horoscopes, magicians, palm readers, and crystal ball gazers make use of the Barnum effect when they convince people that their description of them is highly special and unique and could never apply to anyone else.

The Barnum effect has been studied or used in psychology in two ways. One way has been to create feedback for participants in psychological experiments who read it and believe it was created personally for them. When participants complete an intelligence or personality scale, sometimes the experimenter scores it and gives the participant his or her real score. Other times, however, the experimenter gives participants false and generic feedback to create a false sense (e.g., to give the impression they are an exceptionally good person). The reason that the feedback "works" and is seen as a unique descriptor of an individual person is because the information is, in fact, generic and could apply to anyone.

The other way that the Barnum effect has been studied is with computers that give (true) personality feedback to participants. Personality ratings given by computers have been criticized for being too general and accepted too easily. Some researchers have done experiments to see if people view actually true feedback as being any more accurate than bogus feedback. People do see actually true descriptions of themselves as more accurate than bogus feedback, but there is not much of a difference.

The Barnum effect works best for statements that are positive. People are much less likely to believe that a statement applies to them when it is a negative statement, such as "I often think of hurting people

who do things I don't like." Thus, Barnum effect reports primarily contain statements with mostly positive items, such as the items listed here. Note that the negative phrases are offset by something positive to end the statement.

- "You have an intense desire to get people to accept and like you."
- "Sometimes you give too much effort on projects that don't work out."
- "You prefer change and do not like to feel limited in what you can do."
- "You are an independent thinker who takes pride in doing things differently than others."
- "Sometimes you can be loud, outgoing, and a people-person, but other times you can be quiet, shy, and reserved."
- "You can be overly harsh on yourself and very critical."
- "Although you do have some weaknesses, you try very hard to overcome them and be a better person."

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See also Deception (Methodological Technique); Self-Serving Bias

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BASE RATE FALLACY

Definition

Imagine that you meet Tom one evening at a party. He is somewhat shy and reserved, is very analytical, and enjoys reading science fiction novels. What is the likelihood that Tom works as a computer scientist? The answer depends on both the knowledge you have about Tom and the number of computer scientists that exist in the population. Tom fits the stereotype of a computer scientist, but there are relatively few computer scientists in the general population compared to all other occupations. The knowledge you have about Tom is often called individuating or case-based information, whereas knowledge about the number of computer scientists in the general population is often called distributional or base rate information. When presented with both pieces of information—be it when judging the risk of contracting a disease, when judging the likelihood of a defendant's guilt, or when predicting the likelihood of future events—people often base their judgments too heavily on case-based or individuating information and underutilize or completely ignore distributional or base-rate evidence. Underutilizing or ignoring base-rate evidence in intuitive judgments and decision making is known as the base rate fallacy.

Background

The classic scientific demonstration of the base rate fallacy comes from an experiment, performed by psychologists Amos Tversky and Daniel Kahneman, in which participants received a description of 5 individuals apparently selected at random from a pool of descriptions that contained 70 lawyers and 30 engineers, or vice versa. Participants were asked to predict whether each of the 5 individuals was a lawyer or an engineer. The compelling result was that participants' predictions completely ignored the composition of the pool (i.e., the base rates, meaning whether the pool was made up of 30% lawyers or 70% lawyers) from which the descriptions were drawn. Instead, participants seemed to base their predictions of each person's occupation on the extent to which the description resembled, or was similar to, the prototypical lawyer or engineer. Relying on this *representativeness heuristic* led participants to completely disregard the base rates that should also have been incorporated into their predictions.

Results like these have been replicated in a wide variety of contexts since this initial demonstration. Underutilizing population base rates has been used, for instance, to explain why people are overly concerned about extremely rare events (such as dying in a terrorist attack or contracting a rare disease), why people pay for insurance they do not need, and why doctors misdiagnose their patients. However, broad conclusions about the general existence and robustness of the base rate fallacy in daily life have become quite controversial for two reasons. First, experimental results often show that people do indeed utilize base rates at least some of the time. Empirical research simply does not support the claim that people completely ignore base rate evidence when making judgments and decisions. Second, statisticians have pointed out the difficulty in determining exactly how much people

should incorporate base rates into their judgments in daily life. It is therefore difficult, in some contexts, to argue that people *should* incorporate base rates into their judgments and decisions that they naturally ignore or apparently underutilize.

Evidence

Empirical evidence suggests that base rates are sometimes completely ignored and at other times are utilized appropriately. The key issue for social psychologists, then, is to understand when the base rate fallacy is likely to emerge and when it is not. At least four major factors are known to moderate people's use of base rates in judgments and decisions.

First, people are more likely to utilize base rates when making repeated judgments of events with different base rates than when making a single judgment of an event with only one base rate. Making repeated judgments highlights the varying base rates between events in a way that a single judgment alone does not, and therefore increases the likelihood that people will utilize those base rates when rendering their judgments. People judging the likelihood that they will experience each of three accidents, such as a gunshot wound, a paper cut, or a sprained ankle, will be more sensitive to the base rates of those accidents in the population than people judging the likelihood that they will experience *only one* of those accidents (without mention of the other two accidents).

Second, people are more likely to use base rates when they have no individuating or case-specific information to use in its place. People are more likely to utilize base rates, for instance, when predicting the behavior of a randomly selected person than when predicting their own behavior, in large part because no individuating or case-based information is available for the "random person" but a good deal of individuating information is present when predicting one's own behavior.

Third, people are more likely to utilize base rates when they are perceived to be valid and reliable. Base rate information about elderly adults, for instance, is more likely to be utilized when making judgments about elderly adults than when making judgments about young adults. Base rates tend to be ignored when they are perceived to be invalid and unreliable.

Finally, people are more likely to use base rates when they are presented as frequencies than when they are presented as single-case probabilities. People would be more sensitive to the actual population base rates, for instance, when predicting how many commercial airplane flights out of 1,000 will crash due to mechanical malfunctions than when predicting the likelihood (from 0% to 100%) that any single airplane flight will crash due to mechanical malfunctions.

Importance

Both trivial and important decisions are often based on the perceived likelihood of events. People avoid flying if they believe the likelihood of a crash is high, marry a dating partner if they believe the likelihood of divorce is low, and start new businesses depending on the perceived likelihood of success. Nearly all likelihood judgments require the integration of case-based or individuating information and distributional or base rate evidence. Understanding when people are likely to utilize these base rates appropriately versus inappropriately provides insight into when people are likely to make good versus bad decisions, and understanding why people might sometimes commit the base rate fallacy provides insight for how to improve everyday decision making.

Nicholas Epley

See also Decision Making; Representativeness Heuristic

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BASKING IN REFLECTED GLORY (BIRGING)

Definition

Basking in reflected glory, also known as BIRGing, refers to the tendency of individuals to associate themselves with the successful, the famous, or the celebrated. A baseball fan's use of the inclusive term *we* to describe the victory of his or her favorite team (as in "We won") is an example of BIRGing. Mentioning that one has taken a class taught by a Nobel Prize winner is also an example of basking in reflected glory. Other examples include recounting the story of a chance encounter with a celebrity, such as sitting next

to them on a plane or dining at the same restaurant, and mentioning that one is related to a famous politician or musician. Basking in reflected glory need not be limited to verbal associations (e.g., people are more likely to wear clothing affiliated with a winning team than a losing team).

Background and History

Basking in reflected glory was first scientifically investigated in the mid-1970s by a team of researchers headed by Dr. Robert Cialdini. According to their research, after a winning football game, not only were college football fans more likely to wear clothing that endorsed the football team, they were more likely to use the pronoun *we* to describe the events of the game as compared to fans after a losing football game. In the case of a loss, college students distanced themselves from the football team, a tendency called cutting off reflected failure (CORFing). In the case of a team loss, the fans were less likely to wear clothing such as hats and T-shirts endorsing the team, and, when asked to describe the events of the game, they were more likely to use the pronoun *they* to describe the events (e.g., "They blew it").

Basking in reflected glory has also been demonstrated outside the sports domain. For instance, people in Belgium who endorsed a political party that swept the national elections were more likely to display posters and lawn signs that endorsed their political part for a longer duration after an election than were those who endorsed the losing party. This suggests that people who place bumper stickers on their cars endorsing their preferred political party or candidate may be more likely to leave the sticker on the car after a win than a loss.

Basking in reflected glory is one of many *indirect* impression management tactics. When people engage in impression management, they emphasize certain qualities that they think will make the best impression on their audience. For instance, when a man on a date tries to impress his date (e.g., by mentioning his success in the workplace), he is trying to create the impression that he would be a good provider and therefore a good long-term partner. Similarly, a computer programmer trying to impress a prospective employer may mention that a computer program she developed won a prestigious reward. These are examples of a *direct* impression management tactic. Indirect impression management tactics such as BIRGing involve emphasizing or de-emphasizing connections with others. For instance, in an attempt to convey the impression he would be a good long-term partner, that same man on a date may BIRG by emphasizing how close he is to his brother who is happily married. And in an attempt to covey competence, the computer programmer may BIRG by mentioning that she once worked with a celebrated computer programmer. So, individuals BIRG in an attempt to make themselves look better by associating themselves with the glorious rather than by directly boasting of their own gloriousness.

Basking in reflected glory serves to enhance people's public image or self-esteem. However, the situations in which people BIRG vary, and certain situations may lead individuals to BIRG more. Because BIRGing is intended to enhance an individual's self-esteem, people are more likely to engage in basking in reflected glory when their public self-image is threatened. For instance, people who receive feedback that they performed poorly on a test are more likely to engage in BIRGing than are people who receive feedback that they did well. However, the type of association people emphasize may vary. That is, if a person fails on a test of math ability, that person is more likely to emphasize his or her connection with an individual who is good at something other than math if given the option between basking in reflected glory of a math expert or sports expert. People do this because it makes them feel better to emphasize an association with a celebrated other; after all, it is something positive about themselves.

The connections people emphasize between themselves and others when they BIRG are often trivial connections (e.g., being a fan of a successful team, a member of a winning political party, or the relative of someone who met someone famous). It brings to light a positive yet trivial connection between the individual and the celebrity. However, these connections need not be trivial, and in some cases, basking in reflected glory may occur when the connections are strong (e.g., parents who place "my child is an honor's student" bumper stickers on their cars are BIRGing).

Rosanna E. Guadagno

See also Impression Management; Self-Presentation

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BEHAVIORAL CONTAGION

Definition

Behavioral contagion is the tendency for people to repeat behavior after others have performed it. People very often do what others do. Sometimes we choose to imitate others, for example, by wearing the same type of clothes as our friends. Most of the time, however, we are not aware of the fact that we copy behavior. Research shows that humans nonconsciously imitate a lot of behaviors. Examples are speech variables such as syntax, accents, speech rate, pauses, tone of voice and behavioral variables such as gestures, mannerisms, postures. Furthermore, we take over each other's facial expressions, moods, and emotions. Other well-known examples are laughter and yawning.

Analysis

Why do we imitate? Whereas behavioral synchrony in many species of animals promotes safety (think of schools of fish or flocks of birds), in humans, imitation also serves other functions. First, imitation is a very efficient tool to understand others and learn from them. By doing what another does, we know what the other person is doing. We don't have to make the same mistakes and go through trial and error learning; rather, we can copy the best behavioral option immediately. This is also an efficient way to transfer skills and culture. In case of emotional contagion, when we take over the facial expression of our interaction partner, we feel what others feel, we understand them and can empathize with their pleasure or pain, which brings us to another function of imitation.

Imitation also serves a social function and is a powerful tool in bonding and binding people together: It functions as social glue. We like others who imitate us (as long as we don't notice it, otherwise it will feel awkward), act more prosocial toward them and feel closer to them. Many salespersons and other professionals know this aspect of imitation and use it in attempts to influence consumers or clients. Imitation or mirroring is often advised in commercial books on sales and influence tactics.

How do we imitate? The human brain seems to be wired for imitation. There is an intimate connection between perception and action, seeing and doing, in the human brain. A nice example of this intimate link is the so-called mirror neuron, discovered by a group of Italian researchers in the mid-1990s. These brain cells are active both when people perform a certain behavior (e.g., grasping) and when we merely see someone else perform that behavior. These brain cells do not discriminate between our own and other people's behavior. Although there is no final word about these mirror neurons and whether they actually *cause* imitation, there is more and more evidence for the hypothesis that imitation is hardwired in the human brain. Researchers nowadays are trying to explain exactly how imitation works and how it is related to human characteristics such as empathy and mind reading.

Rick van Baaren

See also Mimicry; Similarity-Attraction Effect; Social Learning

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BEHAVIORAL ECONOMICS

Definition

Everyday life is full of decisions and choices. Economic decisions are especially important to our lives whether we are deciding what to buy for lunch, shopping around for the best price on books, thinking about saving for vacation, or negotiating for a better salary. An important question for many researchers is how people make economic decisions. Specifically, researchers are interested in the assumptions, beliefs, habits, and tactics that people use to make everyday decisions about their money, work, savings, and consumption. Behavioral economics is a field of study that combines the techniques, methods, and theories of psychology and economics to research, learn about, and explain the economic behavior of real people. Whereas neoclassical economics has traditionally looked at how people *should* behave, behavioral economics tries to answer the question of *why* people act the way they do.

Behavioral economics can inform a variety of real-world phenomena, including stock market pricing, bubbles, crashes, savings rates, investment choices, buying

habits, consumption addiction, and risky behavior—all of which are important economic issues with tremendous monetary and lifestyle implications for all of us. Although behavioral economics is a relatively new field of study, it has attracted supporters in academia, industry, and public policy along with criticism from skeptics, who question its contribution and methods.

History

As neoclassical microeconomics developed during the 20th century, psychology as an academic discipline was in its infancy—with techniques, theories, and methods that were not considered well developed by many academicians. As a result, those who studied economics viewed psychology skeptically, and the two disciplines developed independently. As psychology developed into a sound, theoretically based discipline, its theories and findings were nonetheless largely ignored by economists because of the long and separate history between the two disciplines. As a result, economists and psychology have tended to look at financial behavior through different lenses. Neoclassical economists tend to assume that human beings will, for the most part, act rationally when it comes to decision making and money. They also assume that people know what they want, try to always get the most that they can and consistently make the same types of choices under similar circumstances. On the other hand, psychologists have come to understand that human beings are prone to make mistakes, are fickle and inconsistent, and often do not get the best deal when making financial choices. Psychologists investigate the biases, assumptions, and errors that affect how people make decisions in all aspects of life. Over time, economists also began to wonder why financial markets and the individuals that participate in them did not always act according to traditional economic theory. The convergence of economics and psychology eventually created a new field of study referred to as *behavioral economics*.

Theoretical Developments

The concept of *bounded rationality* is extremely important to understanding behavioral economics. Bounded rationality suggests that people are neither purely rational nor completely irrational in their economic behavior but instead try to be sensible and thoughtful economic decision makers. Bounded rationality further suggests that because human beings are limited in how much

information they can process at any one time, they are prone to errors and biases when they formulate their preferences and choices. We often make decisions based on emotion, whim, or by mistake. We sometimes even avoid making certain financial decisions, such as saving for retirement, because the process is just too complicated or we are having too much fun doing other things. People tend to cope with difficult economic decisions by using tricks like mental accounts, habits, heuristics (simple rules of thumb), satisficing (settling for a minimum but not the maximum level of an outcome), maximization, and selective processing of information. These are the phenomena that behavioral economists are interested in. Although traditional economists prefer to assume that people (or *agents* as they are referred to by economists) are perfectly rational and will try to maximize their own personal, financial gain (or *maximize utility* as economists like to say), bounded rationality suggests that we do not always choose the most rational or even the most optimal choice when making economic decisions.

A key paper in the development of behavioral economics was published in 1979 by Daniel Kahneman and Amos Tversky and introduced *prospect theory,* which stimulated interest in understanding the underlying psychological mechanisms of economic preference, judgment, and choice. In 2002, Vernon Smith (who was instrumental in developing economics into an experimental discipline) and Kahneman were awarded the Nobel Prize in Economics for their contributions to experimental and behavioral economics.

Methodology

Behavioral economics tends to use experiments to test theories and hypotheses. However, more recent work has included many other techniques used in traditional economics studies, including field data, field experiments, and computer simulations. In addition, studies in behavioral economics have also used tools from social psychology and cognitive science—including brain scans, psychophysical techniques such as galvanic skin conductance, hormonal levels, and heart rate—to measure subject response.

Over the past 50 years, scientists have experimented with a number of hypothetical game scenarios to determine models of how people make choices in economic situations. Researchers often use games to simulate the kind of financial scenarios that happen in the real world. One game often used in behavioral economics

studies is the *ultimatum game,* which is also called the "take it or leave it" game. In the ultimatum game, a player, Ann, is given a sum of money (usually referred to in economics as an *endowment*) and is asked to split the money between herself and another player, Bob. At that point, Bob can decide whether to take it or leave it. In other words, if the split is accepted, each player gets what Ann had originally decided to give, but if Bob decides that the deal is not good enough, he can reject the deal and neither player will get anything, thereby ending the game. Classical game theory assumes that we will all act rationally and choose to maximize our own outcome. Therefore, according to game theory, Bob should accept any amount that Ann offers as long as it is more than zero, since something is better than nothing. If Ann assumes that Bob is perfectly rational, Ann will offer the minimum amount, say $1, to Bob so that she is maximizing her own "expected utility." However, in repeated experiments of the ultimatum game, a surprising outcome occurs. People don't act rationally when they feel others are taking advantage of them, and people often choose to act altruistically so that a sense of fairness exists between the two players. Neither of these two strategies leads to a traditional type of income maximization.

Another game that is often used in behavioral economics experiments is called the *trust game,* or the stock broker game. Just as in the ultimatum game, Ann starts off with a pot of money, usually $10, and she can choose to keep some of the money for herself and invest the remaining amount with Bob. Bob functions like a stock broker or a trustee. The money that Ann gives Bob is tripled, and Bob can now decide how much he wants to keep and how much he wants to give back to Ann. This game tests how altruistic, trusting, and trustworthy people are when in comes to money. Again, experiments have uncovered an interesting effect. If the game is repeated over many rounds, investors tend to invest about half of their money with the broker and the brokers tend to return to the investor more than was originally sent or about half the tripled amount. This indicates that people do not always try to get as much as they can for themselves, but instead try to play fair most of the time—especially when they are involved in multiple transactions with the same partner.

Topics

A number of topics have been investigated by behavioral economists. Some of the key topics in behavioral economics include *intertemporal choice, loss aversion, framing,* and *fairness.*

Intertemporal choice deals with how people choose to make decisions about events in the past, present, and future. Examples of the type of intertemporal choices that people make every day include deciding whether to save for retirement or choosing to buy a new outfit on impulse. While neoclassical economists assume that people discount the future at a rational and constant rate, behavioral economists look at how the psychology of an individual shapes the decisions and choices about the future.

Loss aversion is an important phenomenon investigated in seminal papers by Tversky and Kahneman. They found that people tend to value losses and gains differently. In fact, the research found that people are much more sensitive to suffering a "loss" than they are to netting a "gain." According to neoclassical economics, people should value both losses and gains the same as long as the final outcome is the same. However, experiments have found that a loss is seen by most people as much more painful than the pleasure from an equal gain.

Framing is another important concept that developed from the loss aversion finding. Framing refers to how outcomes that are presented or stated to a person will influence which choice the person will make. An example of the framing effect can be seen in the *Asian disease problem.* The problem poses to research subjects a hypothetical situation wherein a disease threatens 600 citizens and the subjects need to choose between two options. In the positive frame, subjects are given the choice between (a) a 100% chance of saving 200 lives, or (b) a one-third chance of saving all 600 with a two-thirds chance of saving no one. In the negative frame, subjects are given the choice between (c) 400 people dying for sure, or (d) a two-thirds chance of 600 dying and a one-third chance of no one dying. Although all of the choices result in the same number of lives at risk, most people choose a over b in the positive frame, switching their preferences to choose d over c in the negative frame. Depending on which frame is presented, research subjects tend to change the type of solution they choose, which would be considered inconsistent and irrational by neoclassical economists.

Fairness is an interesting concept that seems to have a great deal of impact on economic choices, but it is not included in traditional economic models. Studies have found that people tend to reject inequality even if

it means walking away from a reward, which does not seem to indicate a rational agent in all situations. The ultimatum game and the trust game have been used in experiments to test when fairness, altruism, and trust influence economic decision making.

New Directions

New research directions based on ideas and theories from behavioral economics have started to use methods developed in cognitive neuroscience. Advances in brain imaging technology (e.g., *functional magnetic resonance imaging,* or fMRI), in addition to clinical studies using patients with brain lesions compared to normal subjects, have been used to examine which neural substrates underlie economic decision making. This new area, coined as *neuroeconomics,* has opened up new areas of inquiry for behavioral economic questions. Neuroeconomics is interested not only in exposing brain regions associated with specific behavior but also in identifying neural circuits or systems of specialized regions that control choice, preference, and judgment.

Criticism

Behavioral economics has been criticized in a number of ways. One criticism is that it focuses on anomalies in behavior instead of creating a unified theory that explains what people usually do. However, researchers in this area argue that anomalies in behavior may be just as important to understanding economic choice since these anomalies have proven to have powerful effects in markets. Examples of these powerful effects can be seen in bubbles and crashes in the stock or real estate markets, anger at the gas pump when prices rise too quickly, or conflict in deciding whether to save a tax refund or spend it on a fancy dinner.

In addition, some have criticized the validity of experiments (which are based in the laboratory) because they are seen as being too different from real-world situations. However, the use of repeated experimental tests of findings and the additional use of field data have been cited as substantiating the findings in the lab.

Current models of decision making only partially explain human behavior. When the actual behavior of real people is examined, these elegant, simple, mathematically based models are not always very accurate or realistic. Behavioral economists defend their discipline by arguing that behavioral economics augments and informs these traditional economic models and provides a more realistic view of the how and why of financial decision making.

Conclusion

Behavioral economics, like the related disciplines of behavioral finance, behavioral game theory, economic sociology, and neuroeconomics, attempts to enrich the classical theories of economics to build better theories, concepts, and models about economic decision making. By attempting to integrate psychological factors into economic theory, it is not the intent of behavioral economists to supplant the important contributions that traditional economics has made, but instead to enhance and augment economic theory so that a more complete and realistic view of economic behavior can be developed. Understanding market phenomena, such as stock market crashes and real estate bubbles, why people do or don't save, how people spend their money and how people make risky decisions, is important not only to academicians but also to public policymakers who seek to create as stable an economic system as possible to preserve the public good. Behavioral economics can even be applied to public health issues such as smoking and other risky behaviors by attempting to understand what economic mechanisms underlie people's consumption choices.

Above all, behavioral economics strives to improve understanding of the financial choices that are an important part of everyday life. Through experiments and field data, behavioral economics has been able to test new ideas about how people make economics choices in a variety of settings in an attempt to create better predictive models of economic and financial decision making and to hopefully help everyone make better financial choices.

Dante Pirouz

See also Bad Is Stronger Than Good; Decision Making; Delay of Gratification; Gain–Loss Framing; Prospect Theory; Research Methods

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BELIEF PERSEVERANCE

Definition

People tend to hold on to their beliefs even when it appears that they shouldn't. Belief perseverance is the tendency to cling to one's initial belief even after receiving new information that contradicts or disconfirms the basis of that belief. Everyone has tried to change someone's belief, only to have them stubbornly remain unchanged. For example, you may have had such debates concerning the death penalty, or abortion, or evolution.

In many cases, resistance to challenges to beliefs is logical and defensible. For example, if you've always done well in math classes, getting a "C" on a math test should not lead you to abandon your belief that you are usually good at math. However, in some cases people cling to beliefs that logically should be abandoned, or at least modified. There is overwhelming evidence that smoking increases the likelihood of contracting cancer and that exposure to media violence increases the likelihood of aggressive behavior. Yet, some people strongly deny these scientific truths.

Scientists studying belief perseverance have been most interested in cases in which people appear to cling too strongly to prior beliefs.

Types

Three different types of belief perseverance have been extensively studied. One involves *self-impressions,* beliefs about oneself. Examples include beliefs about your athletic skills, musical talents, ability to get along with others, or even body image. Perhaps you know someone who is extremely thin but who persists in believing that he or she is too fat. Such a mistaken and perseverant belief can lead to serious consequences. Another involves *social impressions,* beliefs about specific other people. Examples include beliefs about your best friend, mother, or least favorite teacher. The third type involves *naïve theories,* beliefs about how the world works. Most perseverance research on naïve theories has focused on *social theories,* beliefs about people and how they think, feel, behave, and interact. Examples include stereotypes about teenagers, Asian Americans, Muslims; beliefs about lawyers, artists, firefighters; even beliefs about the causes of war, poverty, or violence.

Studies

Early belief perseverance studies tested whether people sometimes truly cling to unfounded beliefs more so than is logically defensible. But, it is difficult to specify just how much a given belief "should" change in response to new evidence. One "C" on a math test should not totally overwhelm several years of "A"s in other math classes, but how much change (if any) is warranted?

There is one clear case in which researchers can specify how much belief change should occur. That case is when the basis of a specific belief is totally discredited. For example, assume that Mary tells José that the new student Sam is not very smart. José may even meet and interact with Sam for several days before learning that Mary was actually talking about a different new student. Because José knows that his initial belief about Sam's intelligence was based on totally irrelevant information, José's social impression about Sam should now be totally uninfluenced by Mary's initial statement. This essentially describes the *debriefing paradigm,* the primary method used to study unwarranted belief perseverance.

In the first belief perseverance study using this method, half of the research participants were led to believe that they had performed well on a social perceptiveness task; the other half were led to believe that they had performed poorly. Later, all were told that their performance had been manipulated by the researcher to see how participants responded to success or failure. Participants were even shown the sheet of paper that listed their name and whether they were supposed to be given success or failure feedback. Later, participants had to estimate how well they really did and predict how well they would do in the future on this task. Logically, those in the initial success and failure conditions should not differ in their self-beliefs about their actual or future performance on this social perceptiveness task, because initial beliefs based on the fake feedback should revert to their normal level once it was revealed that the feedback was faked. Nonetheless, participants who received fake success feedback continued to believe that they were pretty good at this task, whereas those who received fake failure feedback continued to believe that they were pretty bad at it. Other studies of self and social impressions have found similar effects concerning very different beliefs.

The first study of social theory perseverance used a similar debriefing paradigm to see whether fictitious information about the relation between the personality trait "riskiness" and firefighter ability could produce a perseverant social theory. In fact, after debriefing about the fictitious nature of the initial information, participants initially led to believe that risky people make better firefighters and those initially led to believe that risky people make poorer firefighters persevered in their initial beliefs.

At least three psychological processes underlie belief perseverance. One involves use of the "availability heuristic" to decide what is most likely to happen. When judging your own ability at a particular task, you are likely to try to recall how well you've done on similar tasks in the past, that is, how available (in memory) are past successes versus failures. But whether you recall more successes or failures depends on many factors, such as how memorable the various occasions were and how often you've thought about them, but not necessarily on how frequently you've actually succeeded or failed. A second process concerns "illusory correlation," in which one sees or remembers more confirming cases and fewer disconfirming cases than really exists. A third process involves "data distortions,"

in which confirming cases are inadvertently created and disconfirming cases are ignored. For example, if you are told that a new student is rude, you are more likely to treat that person in a way that invites rudeness and to forget instances of politeness.

Research also has investigated ways to reduce belief perseverance. The most obvious solution, asking people to be unbiased, doesn't work. However, several techniques do reduce the problem. The most successful is to get the person to imagine or explain how the opposite belief might be true. This de-biasing technique is known as *counterexplanation*.

Craig A. Anderson

See also Anchoring and Adjustment Heuristic; Attitude Change; Availability Heuristic; Illusory Correlation

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BELIEFS

Definition

Beliefs are generally defined as convictions that things held in the mind are true. If individuals think particular tenets are likely to be true, they are said to believe them. If individuals think particular tenets are unlikely to be true, they are said to disbelieve them. In their most

basic form, beliefs are nonevaluative. For example, if one believes the sky is blue, that belief could either be positively evaluated (if the individual likes the color blue and thinks the sky would look worse in red), or that belief could be negatively evaluated (if the individual dislikes the color blue and thinks a red sky would be nicer). As such, there is a fine distinction between attitudes and beliefs. Often, beliefs will, at least partially, form the basis or foundation of attitudes.

Beliefs can also form the basis of behavior. An example of this is found in health psychology via the health belief model. In this model, health behavior is predicted by several types of beliefs: (a) beliefs about all of the possible consequences of engaging in or failing to engage in a particular health behavior, (b) beliefs about personal vulnerability (i.e., how likely is the occurrence of these outcomes for oneself), (c) beliefs about the likelihood that a behavioral change would either stop negative outcomes from occurring or would facilitate positive outcomes, and (d) beliefs about whether the necessary behaviors can be enacted. According to this model, behavior change occurs when individuals believe that a particular action leads to negative, likely consequences that could be personally stopped. This model has successfully predicted smoking cessation, skin cancer preventative behaviors, tooth flossing, breast self-examination, safer sexual behavior, and eating a balanced diet.

Beliefs are important foundations of attitudes and behavior, but they can be extremely difficult to change. Often, people will vehemently maintain their beliefs even in light of disconfirming evidence. This phenomenon is known as *belief perseverance*. Belief perseverance typically occurs because people base their beliefs on information that they find logical, compelling, or attractive in some way. Therefore, even when beliefs are seemingly disconfirmed by new evidence, the foundation for what the person believes may still exist. At times, the belief will still be maintained because of the remaining support of the explanation behind it.

Understanding how beliefs form and how they underlie subsequent attitudes and behaviors is important because it can aid understanding of social phenomena like prejudice and discrimination, helping and aggressive behaviors, impression formation, obedience to authority, interpersonal attraction, and group decision making. In general, beliefs are the most basic type of social knowledge.

Natalie D. Smoak

See also Attitudes; Belief Perseverance

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BENEVOLENT SEXISM

Definition

Benevolent sexism is a form of paternalistic prejudice (treating a lower status group as a father might treat a child) directed toward women. Prejudice is often thought of as a dislike or antipathy toward a group. Benevolent sexism, however, is an affectionate but patronizing attitude that treats women as needing men's help, protection, and provision (i.e., as being more like children than adults). Benevolently sexist attitudes suggest that women are purer and nicer than men, but also mentally weaker and less capable. Behaviors that illustrate benevolent sexism include overhelping women (implying they cannot do something themselves), using diminutive names (e.g., "sweetie") toward female strangers, or "talking down" to women (e.g., implying they cannot understand something technical).

Although benevolent sexism might seem trivial, patronizing behaviors can be damaging. For instance, people who see a woman repeatedly being treated chivalrously by a man (opening doors, pulling out chairs) view her as less independent. On the job, when women are given patronizing praise instead of promotions or important assignments, they become angry and their performance suffers. Patronizing praise that communicates low expectations (e.g., "You figured out how to tie your shoes—good for you!") is irritating and harmful. Because benevolent sexism is often more subtle, however, many women are induced to accept its promise of men's affection, protection, and help, without fully realizing that this can diminish their own independence and opportunities.

Measurement

Benevolent sexism is typically measured by assessing people's beliefs using the benevolent sexism scale, which is part of Peter Glick and Susan Fiske's Ambivalent Sexism Inventory. The Ambivalent Sexism Inventory also includes a hostile sexism scale that measures hostility or antipathy toward types of women whom sexists view as seeking power or control over men (e.g., feminists or women who use sexuality to "control" men). Considerable research (both in the United States and in other nations) confirms that benevolent and hostile sexism are distinct forms of sexist belief (though their positive correlation indicates that sexists tend simultaneously to endorse both the hostile and benevolent varieties). Benevolent sexism is related to subjectively favorable, and hostile sexism to subjectively unfavorable, stereotypes of women, but both are associated with traditional views about gender roles (e.g., that a woman's place is in the home).

Origins and Function

Paternalistic prejudices, such as benevolent sexism, develop when intergroup inequality is combined with interdependence between the groups. Although men have more power (in most societies) than women, the two sexes are intimately interdependent. Men need women to reproduce. Heterosexual men rely on women as romantic partners and, in traditional relationships, to raise their children and keep their houses. This interdependence means that even if men are more powerful than women, it is in men's interest to gain women's cooperation, rather than to elicit their resentment. Whereas some intergroup relations are purely hostile, intimate interdependence between the sexes means that hostility must be tempered with benevolence; it is unlikely, for example, that men will ever commit genocide against women.

Yet benevolent sexism placates women while still maintaining men's power by encouraging women to remain in traditional roles. This is why it is a form of sexism—because it promotes continued inequality (even if most people who endorse benevolent sexism are not fully aware of how it functions). A key point is that benevolent sexism is directed only at women who stay within traditional gender roles (as wives, mothers, and helpers) that do not challenge (but rather reinforce) men's power and that serve men's needs.

Benevolent sexism may be sweet, but it is also contingent—women who fail to fulfill its expectations (e.g., by challenging male power) instead evoke hostile sexism (dislike or antipathy).

The ambivalent sexism inventory has been administered in dozens of nations. Cross-cultural comparisons reveal that societies where people more strongly endorse benevolently sexist beliefs have the least gender equality (e.g., fewer women in powerful positions in government and business) and exhibit the most hostile sexism. That is, benevolent sexism comes at the cost of gender inequality—women are protected and provided for only if they yield power to men—and, in such societies, women who reject this bargain are treated with hostility.

In sum, benevolent and hostile sexism are complementary tools of control, rewarding women for sticking to traditional roles and punishing those who do not. If women faced only hostile sexism, they would be likely to be resentful and rebellious. By "sweetening the pot" (promising that men will use their greater power and resources to take care of women), benevolent sexism punctures women's resistance to inequality. In fact, women who endorse benevolently sexist beliefs are more likely to endorse other gender-traditional attitudes, including hostile sexism. Benevolent sexism, by falsely appearing to offer only benefits to women, induces many women to accept the idea that men ought to be in charge.

Peter Glick

See also Prejudice; Sexism; Stereotypes and Stereotyping

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Bennington College Study

Definition

The Bennington College study was conducted by sociologist Theodore Newcomb from 1935 until 1939. The study examined the attitudes of students attending the then all-female Bennington College early in the college's history; indeed, the study began during the first year that the college had a senior class. The study is notable not only for the findings it yielded in relation to group influence on individual attitudes, but also because of its methodological significance in being the first major study to interview the same group of individuals about their attitudes on multiple occasions across time.

Background and History

The social climate at the time that the study was conducted was one of change and controversy. Many of the students came from affluent families with very conservative political attitudes. The faculty at Bennington College, however, were predominantly male, social activists in their 30s with liberal social, political, and economic attitudes.

Beginning in 1935 with the incoming freshman class, Newcomb measured the Bennington College women's attitudes toward nine social and economic issues. He then reassessed the women's attitudes each year until 1939. Most of the women's attitudes changed from conservative to liberal. Newcomb concluded that the college's social climate was liberal enough that students perceived liberal, as opposed to conservative, attitudes as the social norm, a norm that then became their reference group.

A few individuals, however, did not change their attitudes in the liberal direction. Two things seemed to predict who would and would not change their attitudes. The first was the degree of involvement of the student in the college community. Students who desired more independence from their families and who wanted to take a more active role in college activities changed their attitudes more than those students who desired to maintain close familial ties. The second, but related, factor was the personality of the individuals who did not change their attitudes. These individuals tended to have lower self-esteem, be more socially insecure, and be more socially isolated.

Importantly, the attitude change observed among the majority of the Bennington College students was quite stable. In 1960–1961, Newcomb conducted a follow-up study with the women who participated in the initial study. The correlation between the women's attitudes at the time of graduation and their attitudes in the early 1960s was .47, suggesting remarkable consistency in the attitudes over the 20+ year span of time. Additional follow-up studies up to 50 years later showed similar patterns of stability in attitudes over time.

Importance and Consequences

The fact that the majority of the women's attitudes changed from conservative to liberal over the course of their 4 years in college, remained remarkably consistent from that point on suggests that late adolescence is a key time for change and influence in people's social and political attitudes. More importantly, however, the Bennington College study highlights the influence of a group on individual attitudes and preferences. The salience of the liberal group norm at the college, in combination with students' willingness to break with existing beliefs and a desire to assume leadership positions within the group, facilitated the ease with which the majority of women changed their attitudes from conservative to liberal.

Robin M. Kowalski

See also Attitudes; Reference Group

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Betrayal

Definition

Betrayal refers to situations in which individuals (victims) believe that a relationship partner (a perpetrator) has harmed them by knowingly violating a norm

governing their relationship. In this context, norms refer to expectations about how the relationship partners should treat one another. Typical betrayals might involve witnessing a romantic partner flirt with somebody else at a party or learning that a good friend has lied to you about something important. Although betrayals are especially likely to be experienced in close relationships, they can also be experienced in more casual relationships. For example, individuals may feel betrayed when a casual acquaintance spreads nasty gossip about them.

Norms vary in the degree to which they are generally accepted in a given culture versus distinctive to a particular relationship. In 21st-century American culture, for example, most individuals agree that having an extramarital affair and lying to one's partner about it constitutes a betrayal. In contrast, other norms apply only within certain specific relationships (e.g., "We must check in with one another at least once every three hours"). Victims experience betrayal when they perceive a norm violation by the perpetrator, regardless of whether the norm is commonly accepted in the culture or distinctive to that particular relationship.

The Experience of Betrayal

Severe betrayals are among the most painful experiences individuals endure during their lifetimes, frequently resulting in negative emotions such as anger and/or sadness and in motivations to enact revenge and/or to avoid the partner. In extreme cases, betrayals can color all aspects of victims' lives for an extended period of time, leaving them in a state of pain, confusion, and uncertainty. Even in more mild cases, betrayals are upsetting, frequently causing victims to experience impulses toward grudge and retaliation.

As a consequence of its negative effects on victims, betrayals create an interpersonal debt wherein the perpetrator owes some sort of compensation to repair the damage. Imagine that Linda and James are involved in a happy romantic relationship until James lies to Linda about something important. This betrayal temporarily alters the dynamics in their relationship: Linda becomes hurt and angry; James may well experience guilt and remorse. Both partners experience a sense that James has the primary responsibility to get the relationship back on track. In a sense, James owes Linda something, perhaps acknowledging the responsibility to "make it up" to her with gifts or other considerate gestures.

The situation is complicated, however, by perpetrators' and victims' tendencies to experience betrayal incidents from strikingly different perspectives. In a process termed the *empathy gap*, both the victim and the perpetrator engage in self-serving distortions of perspective that allow them to view themselves in the most positive light. Relative to perpetrators, victims regard perpetrator behavior as more arbitrary, incomprehensible, and gratuitous; experience greater distress; describe the transgression as more severe; attribute responsibility more to the perpetrator than to the self; and report that the transgression exerted more damaging and enduring effects on the relationship. Perpetrators experience greater guilt than victims do but also tend to regard victims' reactions as somewhat excessive and out of line with the magnitude of the transgression.

Responding to Betrayal

Victims of betrayal are faced with a difficult decision: to act on the basis of retaliatory impulses or to overcome them in favor of more forgiving responses. Although forgiveness generally predicts enhanced relationship and personal well-being, it is typically incompatible with victims' gut-level impulses. In addition, forgiveness cancels the interpersonal debts created by the betrayal, which is likely to benefit the relationship but also to strip the victim of a privileged status.

Research has identified many factors that promote victims' willingness to forgive betrayals. For example, certain personality characteristics of the victim (e.g., empathy, self-control, lack of entitlement) predict tendencies toward forgiveness. Second, certain properties of the betrayal event itself (e.g., low severity, minimal implication that the perpetrator disrespects the victim, the victim's belief that the betrayal was unintentional or uncontrollable) seem to make forgiveness easier. Third, certain characteristics of the perpetrator–victim relationship (e.g., trust in and commitment toward the perpetrator) predict the willingness to forgive betrayals. Finally, forgiveness is more likely if the perpetrator accepts responsibility for the betrayal by sincerely apologizing and making genuine efforts to atone.

A Benefit of Betrayal

Although relationships are generally better off to the degree that they have a smaller rather than a greater number of betrayal incidents, there is one substantial relationship benefit that can emerge from the

experience of betrayal: Betrayals, and both partners' behaviors in response to them, provide excellent opportunities to evaluate the partner's motivations toward the self.

Because betrayals tend to pit the victim's and the perpetrator's motives against one another, they frequently provide circumstances in which individuals can evaluate the partner's willingness to work toward the betterment of the relationship. For example, if a perpetrator of a betrayal is clearly distraught by the pain caused to the victim and atones sincerely, the victim might actually become more confident in the relationship than before the betrayal was perpetrated. Similarly, if the victim forgives the betrayal despite having every right to hold a grudge, the perpetrator learns valuable information about the victim's devotion to the relationship. In short, although betrayals are frequently harmful to relationships, they can sometimes provide the opportunity to strengthen them.

Eli J. Finkel

See also Forgiveness; Interdependence Theory; Norms, Prescriptive and Descriptive

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BIG FIVE PERSONALITY TRAITS

Definition

The Big Five personality traits are the most basic dimensions that shape the structure of human personality and underlie the regularities in people's thinking, feeling, and behavior. The Big Five are dimensional, which means that each of them describes a continuum between two extreme poles. All people, regardless of gender, age, or culture, share the same basic personality traits, but people differ in their relative standing on each of the traits. The individual Big Five are

Neuroticism (vs. Emotional Stability), *Extraversion* (or Surgency), *Openness to Experience* (also called Culture or Intellect), *Agreeableness* (vs. Antagonism), and *Conscientiousness*. As a memory aid, note that the first letters can be rearranged to spell OCEAN, a term that suggests the vast scope of this model in encompassing personality traits.

The Big Five Dimensions

Personality is structured hierarchically; at the broadest or *domain* level are the Big Five, and below them, at a lower level of generality, are narrower traits or *facets*. Thus, each of the Big Five dimensions is a combination of several distinct but closely related traits or characteristics. For example, most people who like to cooperate with others are also more honest and compassionate. Although there are individual exceptions to this rule, the associations among these characteristics in the general population are strong enough to justify combining them under the broader category of Agreeableness. When specific facets are formally included in a Big Five model, the term *Five-Factor model* is commonly used to describe the hierarchy.

People who score high on Neuroticism are emotionally sensitive; they become upset easily and frequently experience negative emotions. Individual facets include sadness, anger, anxiety/worry, self-consciousness, vulnerability to stress, and a tendency to act impulsively. People who score low on Neuroticism are emotionally stable and calm. Even under stressful conditions, they remain confident and experience few negative emotions.

Highly extraverted people are warm, talkative, and generally like to be around others. They are assertive, active and full of energy, cheerful and high in positive affect, and they prefer stimulating environments. Introverted people, in contrast, like to be alone or with a few close friends. They rarely want to lead others. They are reserved and serious, value their independence, and prefer quiet environments.

People who score high on Openness to Experience are curious, imaginative, have broad interests, and easily embrace unconventional ideas and values. Other facets include sensitivity to aesthetic experiences and fantasy, as well as a rich emotional life. People who are low in Openness have a narrower set of interests and are more conventional in their outlook and behavior. They are closed to new ideas, actions, and value or belief systems. They also experience their emotions less intensely.

Highly agreeable people are altruistic, cooperative, compassionate, and trust the good intentions of others. The facets of modesty and straightforwardness are associated with Agreeableness as well. Disagreeable people, in contrast, tend to be characterized by antagonism, skepticism, and a competitive rather than cooperative take on life.

Finally, people who score high on Conscientiousness strive to achieve high standards and are self-disciplined, orderly, deliberate, and dutiful. Low-conscientious persons rarely plan ahead. They may be careless and disorganized in personal matters, and they often fail to establish a well-defined set of life goals.

Although the Big Five are most easily characterized by their extreme poles, it is important to keep in mind that relatively few people are at the extremes. Most people are around the middle of the continuum.

Theoretical Perspectives

The American trait approach to personality, from which the Big Five were derived, originated in the 1930s. Whereas previous approaches to personality research tied their inquiries to theoretical preconceptions, the trait approach focused on data, especially on the analysis of person-descriptive adjectives found in common speech. Words like *shy, irritable,* or *inquisitive* are part of every natural language and illustrate the typical patterns of how people think and talk about themselves and others. The trait approach aims to identify the broad dimensions underlying such everyday personality descriptions. Because of its focus on language analysis, this line of research is also called the *lexical* approach.

Today, there is a wide range of theoretical perspectives regarding Big Five research. Researchers in the lexical tradition such as Lewis R. Goldberg and Gerard Saucier have been content to describe the structure of personality traits without attempting to explain their causes or consequences. Others have focused on relatively specific aspects of the Big Five. Interpersonal researchers such as Jerry S. Wiggins examined the relationship patterns that are associated with certain personality characteristics central to social interactions. Based on increasing evidence for a genetic basis of the Big Five, David M. Buss and other evolutionary psychologists have studied the implications of certain trait configurations for reproduction and survival.

The Five-Factor Theory (FFT) postulated by Robert R. McCrae, Paul T. Costa, Jr., is a more comprehensive theoretical account that addresses the structure of the personality system as well as its causal underpinnings and real-life consequences. According to FFT, personality traits are genetically based biological dispositions. Depending on our relative standing on these *basic tendencies* and in interaction with our individual environment, we develop specific patterns of thoughts, feelings, and behaviors (also referred to as *characteristic adaptations*) that in turn influence our *objective biography*. Although our standing on the five basic tendencies is thought to remain generally stable over time, characteristic adaptations may change. For example, a woman who is high in Neuroticism (basic tendency) may develop coping strategies (characteristic adaptations) that help her deal with stressful situations, and this allows her to take on a challenging new job (objective biography). Nevertheless, she is still high in Neuroticism and remains more emotionally sensitive than the average person.

Measurement

The Big Five are commonly measured by asking people to describe themselves on questionnaires. Some measures are simply lists of person-descriptive words (e.g., "talkative"), but such adjective lists tend to be ambiguous because of their lack of interpretive context. Whole sentences (e.g., "I enjoy parties with lots of people") provide a better assessment of personality. As an alternative to such self-reports, relatives, friends, or other people who know a person very well may provide observer ratings for this person's personality.

A comprehensive assessment of personality is provided by the NEO Personality Inventory–Revised (NEO PI–R). Based on people's agreement with 240 short sentences, the NEO PI–R not only provides scores for the five broad domains but also scores for six subordinate dimensions (or facets) within each of the Big Five.

Personality Development Across the Life Span

From early infancy, children show individual differences in general activity or irritability. These biologically based tendencies (also referred to as *temperament*) evolve into differentiated personality traits over the course of childhood. The familiar Big Five structure was found in children as young as elementary school level and appears to be firmly established by adolescence.

In adolescence and early adulthood, personality changes in predictable ways. On average, people become less neurotic and extraverted and more agreeable and conscientious. Openness peaks in young adulthood and declines thereafter. After the age of 30, personality remains comparatively stable, although small changes continue in these same directions.

Although average levels of adult personality remain relatively stable, individual changes are of course possible. Depressive episodes, for example, are associated with an increase in Neuroticism. With the onset of dementia, people become more distress prone or higher in Neuroticism and less conscientious. In comparison to personality changes related to psychological disorders, changes in response to significant life events such as marriage or divorce are usually small and not very consistent across different studies.

Real-Life Outcomes

Over the years, the Big Five have been linked to a wide range of relevant outcomes. To give just a few examples, people who score high in Neuroticism cope more poorly with stressors and are more likely to be diagnosed with psychiatric disorders; extraverted people have a higher number of romantic partners and excel in sales and management positions; open individuals do well in creative professions; low Agreeableness is associated with juvenile delinquency; and high Conscientiousness is related to healthy behaviors and greater longevity—arguably the most important "outcome" of all.

When it comes to evaluating the real-life implications of the Big Five, it is important to examine the full profile of a person's personality instead of focusing only on individual traits. For instance, people who score high in Neuroticism are more likely to abuse drugs if they are also low in Conscientiousness, and people with clinical depression have less chance of recovery if they are not only high in Neuroticism but also low in Extraversion.

The wide range of real-life implications of the Big Five traits illustrates that understanding the basic structures that underlie a person's personality is not merely an academic exercise but highly relevant for helping clinical psychologists, personnel recruiters, teachers, or health care workers adjust their strategies to the individual needs and abilities of their clients.

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Paul T. Costa, Jr.

See also Agreeableness; Extraversion; Individual Differences; Neuroticism; Traits

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BINGE EATING

Definition

Binge eating is eating a large amount of food in a small amount of time. It is distinguished from overeating because it is accompanied by a feeling of a loss of self-control while eating. The process of the binge is engrossing, pleasant, and can have a frantic quality. At some point the bingeing ends, and the binger is usually upset, embarrassed, and full of negative thoughts and feelings about his or behavior and self.

Analysis

Binge eating is significantly more common among women, although a small number of men engage in it as well (often as part of a social group such as an athletic team where weight is an issue). Binge eating is often done in private, although it can happen as part of a small social group.

Binge eating is a main component in two recognized psychological disorders: bulimia nervosa and binge eating disorder. The behavioral pattern of binge eating, however, is essentially a large exaggeration of a normal phenomenon. It is typical for Americans to eat large amounts of calories at special events, holidays, parties, and so on. This is often followed by dieting, increased exercise and activity levels, and a conscious decision to diet or otherwise reduce weight and food intake. Occasional food binges are common enough among men and women, but repeated binge eating, often done alone and with a loss of control, followed by increased depression, lowered self-esteem, and

other dark thoughts are considered to be a sign of a significant problem.

People who are concerned about their body image, their weight, and their physical appearance and attractiveness are most likely to engage in binge eating. This is probably because these kinds of psychological concerns lead to dieting. Successful dieting is very difficult, and there are numerous physiological and neurological mechanisms that can act powerfully to maintain body weight. Dieters are often very hungry, smells and tastes improve in their urgency, and food-related thoughts can dominate the dieter's day. If a dieter engages in what is known as "black and white thinking," with a strong line drawn between "good" and "bad" foods, between "healthy" and "unhealthy" eating, then any small falling off of a diet, even a bite or two of a forbidden food becomes a significant and total failure. This small failing has the effect of disinhibiting eating—when a person has crossed the line into forbidden territory, the next bad behavior is not much more of an offense. With this kind of thinking, bingeing can spiral out of control. When it ends, the binger is left with self-blame, guilt, and unhappiness. This in turns leads to renewed commitment to dieting, exercise, and lowering caloric intake. This in turn sets up the next bingeing episode.

The clinical evidence for this cycle is excellent and is much the same for people who have trouble controlling their drinking, gambling, smoking and other drug taking, or sexual appetites. The most important difference between binge eating and binge drinking or gambling, sexual binges, or drug addictions is that eating is a normal and essential part of life, and one cannot forswear eating. This makes the careful management of eating, allowing some eating—but not too much— more important, and self-control becomes especially difficult. Stress, life challenges, or simply depletion from working on other problems all make self-control more difficult, and this can increase the probability of setting of a binge.

Binge eating is also associated with a range of other variables associated with poor psychological functioning, including anxiety, low self-esteem, depression, perfectionism, and so on. All of these are indicators of difficulty with functioning in life, particularly in the area of self-control. There is evidence that binge eaters are people who continually have troubles with self-control, either as a personality trait or because they experience life stress or other difficulties that deplete their ability to manage their eating. Binge eating, like other addictive behaviors, may be a way to avoid paying attention to the self. Because binge eating allows a person to narrowly focus on a pleasant and (temporarily) rewarding activity, binge eating can shut out competing, more painful awareness of failings, unfulfilled desires, and personal shortcomings.

Binge eating is not entirely new, but the high rates of binge eating—particularly among adolescent women—do seem to be a fact of the past few decades. This has been traced to social changes that allowed increased access to food, a connection of thinness to attractiveness and high social class among women, and related facts of modern life. There is little evidence that bingeing, followed by shame, guilt, and resolutions to diet (or more rarely, vomiting), existed in any high numbers before the 1970s.

Binge eating seems to run in social groups, such as cheerleading squads, men's and women's athletic teams, dance camps, and sororities. There is evidence that binge eating is a behavior that is passed among friends. Sorority members seem to pick it up from their friends. When entering a group with social norms that favor binge eating, women have been shown to increase their binge eating levels to match those of their friends. Conversely, when women with higher rates of binge eating join a friendship group with lower rates of binge eating, their own binge eating tends to go down. Men on athletic teams where weight is an important determinant of competitiveness (e.g., wrestling, lightweight crew) often acquire binge eating and purging as part of their repertoire. This cycle might become part of their week, with dieting leading up to the weigh-in day, followed by binge eating. Even though this cycle becomes a part of the week, it is rarely accompanied by shame, guilt, or feelings of being out of control. When binge eating is a part of athletics, there is often little or no affective roller coaster, and the binge eating often ends with the competitive season.

Binge eating is not unusual and is quite common among adolescent and college-age women. Many women seek treatment when binge eating gets out of control and when it is accompanied by significant and painful feelings of anxiety, depression, shame, and guilt. But the underlying pattern of binge eating, followed by regret and a determination to "be good" in the future, is a common and normal phenomenon. It is only when it becomes frequent and uncontrollable that it becomes a problem.

Chris Crandall

See also Bulimia; Depression; Guilt; Self-Regulation; Shame

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BIOPSYCHOSOCIAL MODEL

Definition

The term *biopsychosocial model* refers to a type of theory in which biological, psychological, and social psychological processes are combined or integrated to explain behaviors in ways that account for how these different types of processes combine or influence a type of behavior.

Background

Beginning in the 1990s, Jim Blascovich and colleagues developed and expanded a biopsychosocial model of challenge and threat motivational processes. In motivated performance situations, ones that are important to the individual, challenge or threat may occur. Challenge results when the individual assesses, consciously or unconsciously, that his or her resources (e.g., abilities, social support) meet or exceed the demands of the situation (e.g., required effort, danger), and threat results when the individual assesses that the demands of the situation exceed his or her resources.

To measure challenge and threat, Blascovich and colleagues use cardiovascular (i.e., heart-related) responses, including how hard a person's heart is beating (specifically, how strongly the main pumping chambers are contracting); how much a person's arteries are opening or closing; and how much blood is being pumped by the heart through the arteries to the body. In several studies, these investigators determined that when subjects were challenged by a task, their hearts would beat harder, their arteries would dilate, and more blood would be pumped by the heart throughout the body.

The biopsychosocial model of challenge and threat has proven useful in at least two major ways. First, within basic research, the model allows examination of many different social psychological phenomena via their motivational implications. Second, within applied social psychological research, the model has proven valuable for predicting future performance of various activities in which individuals are motivated to engage.

Basic Research

The rationale for using the biopsychosocial model and its associated cardiovascular measures is based on a simple idea. Specifically, if a challenge or threat prediction can be hypothesized or deduced from a specific social psychological theory, then challenge and threat measures (i.e., the cardiovascular patterns associated with challenge and threat) can be used to test the specific social psychological theory. Quite a variety of social psychological theories have been tested in this way.

For example, many attitude theories suggest that having an attitude (e.g., a like or dislike for something) helps people make decisions in everyday life, such as what to buy in a grocery store. In other words, attitudes are functional. If these theories are correct, then individuals with relevant attitudes should find decision making more challenging than would individuals without relevant attitudes. In one study, investigators induced research participants' attitudes toward abstract paintings by having them say out loud how much they liked or disliked each of a set of 15 abstract paintings they had never seen before that was repeatedly shown to them. Later, investigators asked these same participants to decide quickly which of two paintings they liked more in each of many slides of randomly paired abstract paintings. For half the participants, the paintings were drawn from the ones that they had expressed their attitudes toward in the first part of the experiment. For the other half, the participants had never seen the paintings before. All the while, their cardiovascular response patterns associated with challenge and threat were recorded. In line with both attitude functionality theory and the biopsychosocial model, participants in the first condition exhibited the challenge pattern of cardiovascular responses, and participants in the second condition exhibited the threat pattern.

Another example involves *social comparison theory.* When individuals are unsure about how well they are performing, they often socially compare themselves to others to gauge or estimate how they perform compared to others. Sometimes this results in what is called "downward social comparison," that is, when the other's performance is worse than one's own. Sometimes, it results in "upward social comparison," that is, when the other's performance is better than one's own. Researchers reasoned that if an individual was performing and comparing with a downward comparison other, challenge should result and that if an individual was performing and comparing with an upward comparison others, threat should result. Using the cardiovascular markers, these hypotheses were confirmed by the researchers.

Many social psychologists have studied how people interact with *stigmatized others;* more specifically how nonstigmatized individuals interact with members of stigmatized groups. A stigmatized group is one that is devalued in a society. For example, in the United States, race, physical deformities, and low socioeconomic status, among other characteristics, can cause an individual to be identified as a member of a stigmatized group. For more than 40 years, stigma researchers hypothesized that interactions with members of stigmatized groups were threatening to nonstigmatized individuals. However, until the biopsychosocial model was developed and its cardiovascular markers validated, little evidence existed to support this hypothesis. Recently, researchers have conducted many experiments in which nonstigmatized and stigmatized individuals worked with each other on a cooperative task; they found that the cardiovascular markers confirmed the stigma threat notion. Furthermore, threat occurred whether the interactant was stigmatized because of disfigurement, race, socioeconomic status, speech accent, and so on.

Applied Research

Recently, researchers have conducted studies to determine whether challenge and threat theory and its associated cardiovascular patterns could be used to predict how well people would perform on a future task. Their rationale was that if individuals were required to give a speech about how they would perform in a critical situation, the cardiovascular markers of challenge and threat would predict actual performance in the future during the type of critical situation discussed in the speech.

These researchers focused on baseball. University varsity baseball and softball players each gave two 3-minute speeches, one about friendship (a control speech) and one about how they would approach a critical hitting situation (the critical or predictor speech). Controlling for the cardiovascular responses during the control speech, the cardiovascular challenge/threat index that occurred during the performance-relevant speech reliably predicted major outcome measures of offensive baseball performance (runs created, batting averages, etc.). Hence, what was important to predict baseball performance was not how threatening participants experienced speech giving in a psychology laboratory but the relevance of the speech to the predicted task.

Summary

The biopsychosocial model of challenge and threat is one being continuously refined and used for basic and applied research purposes in social psychology. Its demonstrated valid physiological (i.e., cardiovascular) measurement techniques to assess whether an individual is experiencing challenge or threat has proven valuable for both of these research approaches.

Jim Blascovich

See also Approach–Avoidance Conflict; Motivated Cognition; Motivated Reasoning; Social Psychophysiology

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BLAMING THE VICTIM

Definition

A victim is a person who is harmed by the actions of another person or as the result of circumstance. Blaming the victim occurs when people hold the victim

responsible for his or her suffering. When people blame the victim, they attribute the cause of the victim's suffering to the behaviors or characteristics of the victim, instead of attributing the cause to a perpetrator or situational factors.

Why People Blame Victims

Ironically, victim blame often stems from a desire to see the world as a just and fair place where people get what they deserve. This belief in a just world lets people confront the world as though it were stable and orderly. If people did not believe in a just world, it would be difficult to commit themselves to pursuing long range goals or even to getting out of bed in the morning! Because believing in a just world is so adaptive, people are very reluctant to give up this belief. The "problem" with victims, then, is that they violate people's belief that the world is just and fair. One way to restore this threat to their belief system is for people to convince themselves that the victims actually deserved their fate. By derogating victims and blaming them for their negative outcomes, people can maintain the belief that the world is a fair place after all.

One psychological benefit of blaming victims lies in the fact that it lets people convince themselves that they could never be subject to the same fate as the victim. When Hurricane Katrina struck the Gulf Coast in August 2005, leaving many residents of New Orleans trapped for days in miserable conditions inside the Superdome, many people responded by saying that the victims' fate was their own fault for not evacuating. In actuality, many of the people trapped in the Superdome had no access to transportation out of the city and had no money to afford a place to go. Nevertheless, by blaming the hurricane victims for their own suffering, people are able to maintain their belief that the world is fair and just. Ultimately, blaming victims allows people to maintain their own sense of control. It lets them think, "That could never have happened to me, because I would have done things differently."

Evidence

In one enlightening study of victim blame, participants were given descriptions of a series of events that took place between a young woman and a man during a date. In some versions of the study, participants read that the date ended with the man raping the woman. In other versions, the date ended with the man taking the woman home (and not raping her). When participants rated the behaviors of the woman, they were much more likely to rate her behavior as foolhardy and irresponsible if the date ended in rape than if it did not. That is, the exact same behaviors were seen in a different light depending on the outcome of those behaviors. This shows how when people are faced with injustice, it can motivate people to find fault with the victim's behavior even though they would not find fault with those same behaviors under other circumstances.

Characteristics of the victim can influence how much people blame victims. People are more likely to blame respectable victims than less respectable victims because the fate of the former seems more unjust and increases the need for people to restore their sense of justice through victim blame. For example, one study examined reactions to rape victims who were virgins, married, or divorced. Women who were virgins or married were more likely to be blamed for the rape than women who were divorcées. The knowledge that innocent, respectable females can be raped is threatening to people's beliefs that the world is just, which leads people to reduce the threat by blaming the victims.

Numerous other factors can influence how much blame people assign to victims. First, people with right-wing, conservative political ideologies are more likely to blame victims, especially victims of poverty and racial discrimination, while people with more left-wing, liberal ideologies are more likely to blame situational and environmental factors. Second, people who are angry or upset by previous events unrelated to the victim's fate are more likely to blame victims. Negative emotions can carry over into other domains, and people can misinterpret their anger and anxiety as being caused by the victims' fate, which leads them to blame the victims more strongly. Finally, some individuals are more committed than others to the belief in a just world. People who strongly endorse the belief that the world is a fair place are more likely to be threatened when they witness the suffering of innocent victims, which in turn leads them to blame the victims.

Reducing Victim Blame

There are several ways to reduce victim blame. If people have immediate and easy solutions to alleviate the suffering of victims, they are less likely to blame those victims. Helping victims allows people to restore the threat to their belief in a just world, reducing the

need to restore the threat via victim blame. However, sometimes there are no easy and immediate solutions to alleviating victim's suffering. Once people have jumped to the conclusion that a victim is responsible, it is harder to convince them to aid the victims. It is also possible to reduce victim blame by encouraging people to empathize with victims. If people are able to take the perspective of the victims or can easily imagine being in the victim's shoes, they are less likely to blame the victim. Finally, most people feel that it is not really fair to blame innocent people for their suffering. Many times people blame victims without being consciously aware of what they are doing. Giving people conscious reminders that victim blame is socially unacceptable can encourage them to withhold from blaming the victim.

Laurie T. O'Brien

See also Attributions; Beliefs; Control; Ideology

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BOBO DOLL STUDIES

Definition

Albert Bandura conducted the Bobo doll studies in the 1960s to investigate whether children could learn new behaviors through observation. The descriptive name of these studies comes from an inflatable child's toy, a "Bobo doll," that had a weighted bottom which allowed it to be repeatedly knocked over and yet bob back up. Children who observed an adult kicking, punching, or otherwise attacking the Bobo doll were more likely to later act in the very same way against the doll than were children who had observed nonviolent play or no play at all. Variations of the original study produced similar findings, even when a live clown was used in place of a doll. Collective findings from the Bobo doll studies

aided Bandura in the development of social learning theory.

Study Description

Nursery school children were divided into three similar groups. Children in two of the groups were taken individually by an experimenter into a room where they could play with a variety of toys. The experimenter also escorted an adult into a corner of the same room to play with another set of toys. At this point, the children observed one of two things. Children in one group saw the adult in the corner playing quietly with a set of Tinker toys. However, children in the other group saw the adult begin to play with the Tinker toys, but then begin behaving aggressively toward the Bobo doll. This aggressive play included punching the doll in the nose, picking up a mallet and pounding the doll, and tossing the doll in the air. Although each child was in a position to observe this entire situation, no direct contact existed between the adult and the child.

After 10 minutes, the experimenter led the child into another room. This phase of the study also included children from a third group who had not observed an adult in either of the previous play conditions. After experiencing a frustrating situation (not being allowed to play with nicer toys), the child was led into yet another room to play while the experimenter completed paperwork nearby. The room contained toys that could be played with violently (such as dart guns), nonviolent toys (such as dolls and toy trucks), and a Bobo doll.

Children who had observed the adult playing with the Bobo doll in an aggressive manner were more likely to act aggressively toward the doll than were children who had watched the adult playing nonaggressively. However, children who had viewed nonaggressive play were more likely to later play peacefully than even those children who had not observed any modeled play. Thus, it was demonstrated that children could learn both good and bad behaviors in the absence of punishment or reward simply by observing others modeling those behaviors.

L. Brooke Bennett

See also Modeling of Behavior; Social Learning

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BOGUS PIPELINE

Definition

If you ask a person about their sexual activity, illicit drug use, or prejudices against certain others, you may not get a straight answer. Embarrassment, fear of legal repercussions, or a simple desire to look good can create distortions in responses to such questions. Social psychologists have developed many research techniques to get more accurate responses to survey questions. Contemporary implicit measurement techniques, such as the Implicit Association Test, use computer assessment of millisecond-level differences in response time to sidestep respondents' strategic efforts at self-presentation. Much earlier, social psychologists used a more primitive method. The bogus pipeline technique, pioneered in the early 1970s, was based on the idea that people might give truer responses if they feared getting caught in the act of lying. The term itself refers to a purported "pipeline to the soul" that happens to be faked.

The bogus pipeline involved an elaborately theatrical laboratory procedure. The researcher staged a ruse to convince the respondent that a newly developed lie detector was capable of providing highly accurate feedback on the truthfulness of any answer to a survey question. As a result, the respondent might answer truthfully to embarrassing questions because the prospect of being caught in a lie feels worse than any potential embarrassment. Of course, error-free lie detectors do not exist today, and they certainly did not exist in the 1970s. A key component of the bogus pipeline procedure, therefore, was to convince respondents that the impressive-looking machine that they were being wired into was truly effective at lie detection. This was accomplished by having respondents first complete a supposedly anonymous survey in another lab room, during which their answers were surreptitiously recorded. Later, when wired into the lie detector (which did not actually work), a hidden researcher manipulated the fake machine to produce the "correct" responses as the respondent was asked the same questions as earlier. Once respondents had been "convinced" that the lie detector worked as advertised, the main experiment would proceed, with the main survey questions of interest now posed.

The bogus pipeline works. Its effectiveness was verified across many experiments in which responses collected using the bogus pipeline were compared directly to responses collected using the more traditional "paper-and-pencil" survey method. A study from the early 1970s, for example, revealed racial prejudice to be more common among respondents tested using the bogus pipeline than with paper and pencils. In the 1980s, the technique was widely used to gauge illicit drug use among young adults. Not surprisingly, however, some condemned the procedure on the grounds that its elaborate deception was unethical, that it was wrong to lie to people to get better survey responses. Largely supplanted today by more effective implicit measurement techniques (one of which goes by the name *bona fide pipeline*), simpler versions of the technique are nevertheless still used on occasion to shed light on theoretical problems involving implicit versus explicit cognition.

Neal J. Roese
Rachel Smallman

See also Deception (Methodological Technique); Implicit Association Test; Research Methods; Self-Presentation; Social Desirability Bias

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BRAINSTORMING

Definition

Brainstorming is a widely used method to stimulate creativity in problem solving. In a structured session, people (usually in a group) generate as many creative ideas as possible. Social psychologists have mainly studied whether it is more effective to brainstorm in a group or alone, and have come to the counterintuitive conclusion that brainstorming often is better done alone.

Underlying the brainstorming procedure are two basic principles. First, people are encouraged to come up with as many ideas as possible, because the more

ideas, the more likely it is that good ideas are among them ("quantity breeds quality"). Second, although eventually the quality of ideas should be evaluated, idea generation and evaluation are strictly separated ("deferment of judgment"), because fear of negative evaluation interferes with people's creativity. There is evidence for both principles: Quantity and quality of ideas are positively related, and fear of evaluation is bad for idea quality.

Brainstorming is usually done in groups, and much research has studied the effectiveness of group brainstorming. These studies have consistently revealed that people generate more ideas and better ideas when they brainstorm individually as compared to when they brainstorm in a group. In these studies, the number of ideas generated by a group is compared to the number of ideas of the same number of people who brainstorm individually. Counting duplicate ideas (ideas generated by more than one person) only once, results show that N individuals generate more ideas than an N-person group. The difference is quite large and increases with group size.

One major factor that causes the so-called productivity loss of groups is production blocking: Group members have to wait for their turns to express ideas, because only one person can speak at any given time. Thus, group members block each other's contributions, which hampers their idea generation.

At the same time, people generally think that their creativity is enhanced in a group and feel that overhearing others' ideas is stimulating. And in fact, this also is true: There is evidence that listening to others generating ideas helps one's own idea generation. However, production blocking completely overrides these positive effects in normal brainstorming sessions. If ideas are not articulated aloud but are shared on pieces of paper (*brainwriting*) or through computers (*electronic brainstorming*), production blocking can be eliminated. Indeed, groups can be more productive than individuals when ideas are exchanged on written notes or through computers, rather than articulated aloud.

Bernard A. Nijstad

See also Creativity; Group Performance and Productivity

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BRAINWASHING

Definition

Brainwashing is a term that was adopted by the press to describe the indoctrination of U.S. prisoners of war (POWs) during the Korean War. Social scientists now recognize brainwashing as a form of severe indoctrination marked by physical and psychological stress, intense social pressure, and a variety of persuasion techniques. This form of intense indoctrination usually promotes some particular form of political or religious doctrine, often entailing costly sacrifices by adherents.

History

Modern social scientists became concerned with brainwashing when American POWs during the Korean War were subjected to systematic persuasive techniques by their captors. Following this indoctrination, some of these POWs did, in fact, cooperate with the enemy, at least superficially. Such prisoners praised their captors or made hard-to-believe confessions about participating in various war atrocities. The brainwashing procedures directed against American POWs in Korea were modeled upon indoctrination procedures used by Chinese revolutionary forces when "educating" their own political cadres. In point of fact, however, at the end of hostilities in Korea, only a handful of these POWs actually elected to refuse repatriation to the United States. When one considers that several thousand American soldiers were exposed to these techniques, this low rate of refusal indicates that the long-term persuasive results from these early procedures were meager. Beginning in the 1970s however, shocking events—including series of group suicides among the members of groups such as the Heaven's Gate cult and the Peoples Temple (where over 900 people perished)—established that group indoctrination could induce extremely costly

behavior from group members. In light of these events, social scientists took renewed interest in extreme forms of systematic indoctrination.

Procedures and Analysis

According to most experts, the intense indoctrination associated with the term *brainwashing* unfolds in a series of stages. The earliest stage entails strong forms of psychological and physical stress. Here, the indoctrinee, or recruit, is almost always sequestered in a retreat or a training center away from their normal friends, coworkers, and family, where they are surrounded instead by members of the indoctrinating group and other indoctrinees. Here prolonged sleep deprivation is extremely common, as are changes in diet and pattern of dress. Public self-criticism is generally encouraged often under the guise of self-analysis. The recruit's time is carefully regimented and filled with a multitude of activities most often related to, and advocating, an unfamiliar, complex doctrine. This advocacy can take the form of lectures, readings, and other group activities. This initial stage can be as short as a few days but also can extend for weeks. It is designed to evoke such emotions as fear, guilt, exhaustion, and confusion on the part of the recruit.

This introductory stage segues subtly into the second stage of indoctrination in which the recruit is encouraged to "try out" various group activities. These activities may involve such things as self-analysis, lectures, praying, and working at group-related chores. This tentative collaboration may be spurred by such elements as social pressure, politeness, legitimate curiosity, or a desire to curry favor with authority figures. Eventually however, this collaboration leads the recruit to begin to seriously consider the wisdom of the doctrine in question, thereby leading to the third stage of indoctrination in which actual belief change begins. In this third stage, the recruit is typically surrounded by believers and kept isolated from anyone who might disagree with the doctrine, thereby producing particularly potent peer pressure. In addition, the information and reading provided to recruits is carefully screened to justify the group teachings. Added to this, the recruit generally remains physically and mentally exhausted and is given little time for unbiased analysis of the doctrine. This makes it difficult for the recruit to generate private cognitive objections to the group doctrine. As a result, sincere belief change commonly begins at this point in the process.

In the final stage of indoctrination, initial belief change regarding the group and its doctrine is consolidated and intensified to the point that the new recruit comes to accept group teachings and decisions uncritically while viewing any contrary information as either enemy propaganda or necessary "means/ends trade-offs." By this point, the recruit has been cajoled into taking a series of public and/or irrevocable actions in service to the group. These acts entail increased effort, cost, and sacrifice over time. As one example, when Patricia Hearst was being indoctrinated by the Symbionese Liberation Army, she initially was asked to just train with the group. Then she was asked to tape-record a prewritten radio speech. Next she was asked to both write and record such a talk. Soon after that, she was required to accompany the group on a bank robbery carrying an unloaded weapon. Thus, the level of sacrifice required of her escalated over her time with the group. In this final stage, as before, recruits remain surrounded by those who endorse the doctrine. These co-believers corroborate the recruit's expressions of that doctrine. Moreover, they admire, reward, and endorse the recruit's acts of loyalty and sacrifice. Interestingly, according to recent news reports, these procedures correspond quite closely to those followed in the training of suicide bombers once they express an initial willingness to make such a sacrifice. Such individuals are kept secluded in safe houses, cut off from family, and often make videos to be used in later propaganda efforts.

Experts note that the procedures (stages) described in the previous paragraphs coordinate a variety of potent persuasive techniques. Peer pressure is known to be particularly effective when an individual faces a united consensus especially if the individual is confused, frightened, or facing an ambiguous issue. People's ability to resist a flawed persuasive message is particularly impaired when they lack the opportunity to think clearly about inadequacies of the message due to fear, sleep deprivation, and/or overactivity. Moreover, when likeminded individuals (such those found in extremist groups) discuss a topic they basically agree upon, the result is a polarization of opinion, with group members taking a more extreme view after discussion. Similarly, extreme attitudes also result when people find that others share and admire their opinions. In addition, when individuals agree to costly (and public) sacrifices, they have a strong tendency to justify such actions by intensifying any attitudes that support these acts, a process referred to as the *reduction of cognitive dissonance*. Finally, the grandiose

goals of many extremist groups appeal to the human need to feel important, significant, and part of some timeless, meaningful social movement be it religious, political, scientific, or historic. In this emotional context, the intense indoctrination associated with the term *brainwashing* combine to create a persuasive milieu that, at least for some targets, has the power to evoke surprising changes in both belief and behavior.

Robert S. Baron

See also Cognitive Dissonance Theory; Conformity; Group Polarization

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BROADEN-AND-BUILD THEORY OF POSITIVE EMOTIONS

The broaden-and-build theory of positive emotions was developed to explain why people experience positive emotions. What purpose might be served by fleeting feelings of joy, gratitude, serenity, or love? Did such pleasant states confer adaptive value over the course of human evolution?

Within prior theories of emotions, positive emotions posed a puzzle. This was because most prior accounts rested on the assumption that all emotions—both pleasant and unpleasant—were adaptive to human ancestors because they produced urges to act in particular ways, by triggering *specific action tendencies.* Fear, for instance, is linked with the urge to flee, anger with the urge to attack, disgust the urge to expel, and so on. A core idea within the concept of specific action tendencies is that having these particular actions spring to mind made emotions evolutionary adaptive because such quick and decisive actions helped early humans to survive specific threats to life or limb. Another core idea is that specific action tendencies are *embodied thoughts:* Ss they overtake conscious thought, they also trigger rapid bodily changes that

support the actions called forth. If you, at this moment, saw danger looming and were experiencing fear, you would not only experience an overwhelming urge to flee to safety, but also within milliseconds your cardiovascular system would have switched gears to redirect oxygenated blood to large muscles so that you'd be physically ready to run away. The major contribution made by the concept of specific action tendencies, then, was to explain why emotions infuse both mind and body and how the forces of natural selection might have shaped and preserved emotions as part of universal human nature.

The trouble with the concept of specific action tendencies came when past theorists tried to pinpoint the tendencies sparked by positive emotions. Joy had been linked to the urge to *do anything,* and serenity with the urge to *do nothing.* Not only were these urges vague and nonspecific, it's doubtful whether doing nothing is an action at all! Positive emotions, then, did not fit the theoretical mold that worked so well for negative emotions. Noticing this puzzle and other intriguing features of positive emotions, Barbara L. Fredrickson offered the broaden-and-build theory to explain the evolved adaptive significance of positive emotions.

The broaden-and-build theory holds that, unlike negative emotions, which narrow people's ideas about possible actions (through specific action tendencies), positive emotions *broaden* people's ideas about possible actions, opening their awareness to wider ranges of thoughts and actions than are typical for them. Joy, for instance, sparks the urge to play and be creative, interest sparks the urge to explore and learn, and serenity sparks the urge to savor current circumstances and integrate them into new self-views and worldviews.

Whereas the narrowed mindsets sparked by negative emotions were adaptive in instances that threatened survival in some way, the broadened mindsets sparked by positive emotions were adaptive in different ways and over longer time scales: Broadened mindsets were adaptive because, over time, such expansive awareness served to build humans' resources, spurring on their development, and equipping them to better handle subsequent and inevitable threats to survival.

To illustrate, consider the playful mindset sparked by joy. Ethological research documents that as complex organisms play with conspecifics, they forge social alliances (i.e., friendships). In times of trouble, these gains in social resources might spell the difference between life and death. Consider also the urge to explore novel environments sparked by interest. Behavioral research documents that positive and open

mindsets—because they yield exploration and experiential learning—produce more accurate cognitive maps of the local environment, relative to negative and rejecting mindsets. Such gains in intellectual resources might again spell the difference between life and death in certain circumstances.

The broaden-and-build theory states that positive emotions were adaptive to one's human ancestors because, over time, positive states and their associated broadened mindsets could accumulate and compound in ways that transformed individuals for the better, leaving them with more social, psychological, intellectual, and physical resources than they would have otherwise had. When these ancestors later faced inevitable threats to life and limb, their greater resources would have translated into better odds of survival and of living long enough to reproduce. To the extent that the capacity to experience positive emotions was genetically encoded, this capacity would have been shaped by natural selection in ways that explain the form and function of the positive emotions that modern-day humans experience.

Since its inception, the broaden-and-build theory has been tested and supported by a wide range of empirical research. Controlled laboratory experiments document that, compared to neutral and negative states, induced positive emotions widen the scope of people's attention, expand their repertoires of possible actions, and create openness to new experiences. Prospective field studies show that people who, for whatever reasons, experience more positive emotions than others are better equipped to deal with life's adversities and challenges. Last but not least, randomized controlled tests of interventions designed to augment people's positive emotions—like practicing meditation or cultivating the habit of counting blessings—have documented that these interventions build people's enduring resources, including immune functioning, mindfulness, and relationship closeness.

At a practical level, the broaden-and-build theory gives modern-day humans reason to cultivate and cherish positive emotions. Pleasant states like joy, interest, serenity, gratitude, and love do not merely feel good in the moment, but they also place people on trajectories toward positive growth: As these positive emotions accumulate and compound, they pave the way for people to reach their higher ground: to become healthier, more knowledgeable, more resilient, and more socially integrated versions of themselves.

Barbara L. Fredrickson

See also Emotion; Independence of Positive and Negative Affect

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BUFFERING EFFECT

Definition

A buffering effect is a process in which a psychosocial resource reduces the impact of life stress on psychological well-being. Having such a resource contributes to adjustment because persons are less affected by negative life events. Social support is a known buffering agent: Persons with high support show less adverse impact from negative events.

History and Modern Usage

The concept of buffering originated from studies on the effects of life stress. Researchers observed that there was considerable variability in individual reactions to major negative events such as illness, unemployment, or bereavement. Some persons were very affected by the events, showing high levels of depression, anxiety, and physical symptoms; but other persons who experienced such events did not show very high levels of symptomatology and recovered more quickly. These observations led to the concept that persons who had certain resources were relatively protected (i.e., buffered) from the adverse impact of life events.

Buffering effects are demonstrated in studies that include measures of major life events experienced during a certain time frame (e.g., the past year), a proposed resource, and psychological and/or physical symptomatology. Persons who have experienced more negative life events have higher levels of symptomatology, but studies show that life events have less impact (sometimes almost no impact) among persons with high levels of psychosocial resources.

The resource most often studied is social support. Persons who have high levels of social support are less affected by negative life events. Buffering effects have been found for aspects including emotional support (being able to confide in a friend or family member when one is having problems) and instrumental support (being able to obtain goods or services, e.g., money, transportation, child care) that help one to deal with stressful events.

Studies of social support have found buffering effects with mortality as the outcome. Life stress increases mortality over 5- to 10-year periods, but persons with larger social networks, more emotional support, and more participation in community activities have relatively lower rates of mortality under high stress, compared with persons having less social support. *Social capital,* interpersonal trust, and cohesion at the community level, may also have such an effect.

Social relationships are not the only buffering agent. A personality complex termed *hardiness,* an orientation toward stressors based on feelings of commitment, control, and challenge, has shown such effects: Persons with a hardy personality show fewer symptoms under high stress. *Optimism,* the belief that things will generally turn out well, is an outcome expectancy that can produce buffering effects for psychological and physical symptomatology.

Research on buffering has helped to delineate pathways through which life stress may bring on health problems. It has also shown that buffering resources influence how people cope with stressors, leading to procedures for training persons in adaptive coping mechanisms so that effects of negative events can be reduced.

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See also Hardiness; Social Support; Stress and Coping

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Bulimia

Definition

Bulimia literally means "ox hunger" and is short for bulimia nervosa—an eating disorder characterized by binge eating episodes in which an individual feels a loss of control over eating and eats very large amounts of food. The individual reacts to binge episodes by using extreme measures to prevent weight gain, such as self-induced vomiting, laxative abuse, diuretic abuse, fasting, or excessive exercise. Within the United States, self-induced vomiting is the most common method for avoiding weight gain among individuals with bulimia nervosa. Importantly, research has shown that vomiting is not effective in getting rid of the calories consumed during binge-eating episodes. Vomiting only eliminates approximately 25% of the calories consumed during a typical binge-eating episode. Similar to individuals with anorexia nervosa, individuals with bulimia nervosa base their self-worth on their weight and shape. Like all eating disorders, bulimia nervosa is a form of mental disorder recognized by the fields of psychology, social work, nutrition, and medicine. Bulimia nervosa is an important subject in the field of social psychology because social factors play an important role in causing the disorder.

Bulimia nervosa most often occurs in adolescent and young adult females, affecting 0.5% to 3.0% of women (or 1 in 200 to 1 in 33) at some point in their lifetimes. Bulimia nervosa is far less common in males. Estimates suggest that 0.05% to 0.3% of men (or 1 in 2000 to 1 in 300) suffer from bulimia nervosa at some point in their lifetimes. Bulimia nervosa appears to be a modern problem. A British physician first used the term *bulimia nervosa* in 1979 to describe

normal-weight female patients who regularly binged and vomited. Rates of bulimia nervosa increased dramatically over a very short period of time in the second half of the 20th century. In addition to being a modern problem, bulimia nervosa appears to be a problem restricted to Western cultures such as the United States and England or individuals who have been exposed to Western ideals.

Western Ideals and Bulimia Nervosa

The increasing idealization of thinness for women in Western culture provides one explanation for increasing rates of bulimia nervosa over the second half of the 20th century and the increased rates of the disorder in women compared to men. In modern, Western culture, being thin has been equated with being beautiful. The idealization of thinness has created associations between thinness and other positive qualities, such as success, intelligence, motivation, likeability, and strength. In contrast, fatness has been associated with many negative qualities, such as laziness, stupidity, loneliness, ineptitude, weakness, and dependence.

The thin ideal contrasts sharply with the reality of what most women's bodies look like, leaving most women dissatisfied with their own body weight and shape. In bulimia nervosa, dissatisfaction with weight and shape influence self-esteem, and the potential impact of weight gain on self-esteem motivates extreme attempts to control weight. Ironically, extreme attempts to control weight may trigger binge-eating episodes, locking individuals with bulimia nervosa in a vicious cycle of dieting, binge eating, and purging. The processes by which attempts to control weight lead to behaviors that cause weight gain are similar to processes described in social psychology in the area of self-regulation. Further, work by Vohs and colleagues has shown that low self-esteem is directly linked to binge eating among individuals who perceive themselves as overweight and have high levels of perfectionism. Although binge eating would increase the chasm between actual weight and perfectionistic weight ideals, it temporarily reduces painful self-awareness in individuals with low self-esteem. This explanation is consistent with models put forth by Baumeister and colleagues for other self-destructive behaviors as being motivated by a desire to escape the self.

Given the widespread nature of body dissatisfaction among adolescent girls and young adult women, bulimia nervosa is actually quite rare. This means that within a culture that idealizes thinness there are factors that further increase risk for developing bulimia nervosa. Social environments that increase pressures to adhere to the thin ideal, such as ballet schools or social groups that model eating disorder behaviors, may further increase risk for developing bulimia nervosa. Peer influence may play an important role in causing the disorder.

Peer Influence

Researchers have hypothesized that peer influence is a likely causal factor in the development of bulimia nervosa during adolescence. As teenagers acquire more independence from their parents, peers become more important as a reference group. Peer influence is likely to increase dramatically when adolescents go away to college because they leave their homes to live among peers.

Researchers have examined the similarity of peer behaviors as one indicator of peer influence. According to the principle of homophily, social groups tend to share similar behavioral and interpersonal characteristics. Similar to results from studies of other health risk behaviors such as smoking, alcohol use, and drug use, research indicates that bulimic symptom levels are more similar within friendship groups than between friendship groups in high school girls. The process of socialization may cause this similarity.

Socialization

In the process of socialization, attitudes and behaviors spread from one group member to another. Social norms arise for characteristics that are important to the group. Individuals experience social rewards for adhering to these norms, such as an increase in popularity, and social punishments for deviating from them, such as a decrease in popularity or even rejection from the social group. Over time, this social pressure toward uniformity has a causal effect on an individual's behavior. As group members spend more time together, their attitudes and behaviors should become more similar.

Evidence for the socialization of bulimic symptoms comes from Christian S. Crandall's study of friendship

groups in college sororities. Girls living in one of two sorority houses completed questionnaires that assessed binge eating and friendship groups in the fall and the spring of one academic year. Crandall hypothesized that socialization during the school year would lead to similarity on binge eating within peer groups in late spring (e.g., a few weeks before the sorority closed for the end of the term). As predicted, Crandall found that friends' binge eating grew increasingly similar over the course of the academic year. In both sororities, popularity was related to the extent to which an individual's binge eating was similar to the norm for her sorority. However, binge-eating patterns differed between the two sororities, suggesting that the "right" level of disordered eating depended upon local social norms—rather than reflecting college- or culture-wide norms. In an extension of this work, Zalta and Keel found socialization of bulimic symptoms in a general college sample, but this effect was specific to peers who had been selected on the basis of having similar levels of perfectionism and self-esteem.

Treatment and Outcome

The most successful treatments for bulimia nervosa include cognitive-behavioral therapy and antidepressant medication. Cognitive-behavioral therapy directly challenges the association between self-worth and body weight/shape. Both treatments have produced higher rates of recovery compared to other forms of treatment used for the disorder. Overall, approximately half of women treated for bulimia nervosa achieve full recovery during treatment. Rates of recovery continue to increase over time such that 75% of women are recovered by 10 years following treatment. Although most women with bulimia nervosa will recover, a significant minority continues to struggle with their eating disorder into midlife. Bulimia nervosa is associated with significant health problems and problems in interpersonal relationships in these individuals. Treatment response and outcome for male patients or adolescent patients are not well described because most studies are restricted to adult female samples.

Other Influences

Although social factors play a crucial role in the development of bulimia nervosa, many other factors are involved as well. Biological factors, such as genes, contribute to risk for developing bulimia nervosa. In addition, personality factors play an important role in the development of the disorder. Finally, stressful life events may serve as triggers for the onset of bulimia nervosa in vulnerable individuals. For these reasons, bulimia nervosa is an important topic in many areas of psychology.

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See also Self-Esteem; Self-Regulation

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BULLYING

Definition

Bullying is aggressive behavior in which there is an imbalance of power or strength. Usually, bullying is repeated over time. Bullying behaviors may be direct (e.g., hitting, kicking, taunting, malicious teasing, name calling) or indirect (e.g., rumor spreading, social exclusion, manipulation of friendships, cyberbullying). Although adults may tend to view bullying as an aggressive exchange between two individuals (a child who bullies and his or her victim), it is more accurately understood as a group phenomenon, in which children may play a variety of roles as aggressors, victims, observers, and defenders.

Attention to Bullying

Although bullying is an age-old phenomenon, it has only recently been recognized as a serious and pervasive

problem among children and youth in the United States. Led by the pioneering work of Dan Olweus in Norway, research attention to peer bullying in Scandinavia has been active for more than 3 decades, and there has been widescale public attention to the problem in Scandinavian countries since the early 1980s. In the United States, such widescale interest in bullying was not aroused until the spring of 1999, when media accounts of the shootings at Columbine High School identified the perpetrators as victims of bullying by classmates. Research on the nature and extent of bullying among children and youth has increased significantly in recent years. A smaller, but growing, literature on adult workplace bullying has also emerged.

Prevalence

Rates of bullying among children and youth vary depending on the definition that researchers use and the populations studied. In an important nationally representative study of more than 15,000 students in Grades 6 to 10, Tonya Nansel and her colleagues found that 17% of children and youth reported having been bullied "sometimes" or more often during the school term and 19% had bullied others "sometimes" or more frequently. These researchers also found that 6% of the students were "bully victims"—they had bullied others and also had been bullied.

Demographic Differences

The nature and prevalence of bullying among children and youth have been found to vary by age and gender. Most research suggests that children are most likely to be bullied during their elementary school years, followed by middle school, and high school. Children and youth typically are bullied either by same-age peers or by older children and youth. This may explain why somewhat different age trends are found when focusing on rates of bullying others versus rates of victimization. Most researchers have found that children and youth are most likely to bully others during early to mid adolescence.

Although both girls and boys are frequently engaged in bullying problems, researchers have debated the relative frequency with which they engage in and experience bullying. Studies relying on self-report measures typically have found that boys are more likely than girls to bully. Research findings are less consistent when examining gender differences in peer victimization. Some studies have found that boys report higher rates of victimization than girls. Other studies, however, have found either no gender differences or only marginal differences. What is clear is that girls are bullied by both boys and girls, while boys are most often bullied by other boys. Perhaps more important than the relative frequency of bullying among boys and girls is the types of bullying in which they are involved. The most common form of bullying experienced by both boys and girls is verbal bullying. However, there are also are notable gender differences. Boys are more likely than girls to experience physical bullying by their peers. Girls are more likely than boys to be bullied through rumor spreading or being the subjects of sexual comments or gestures.

Causes of Bullying

Bullying is a complex phenomenon with no single cause. Rather, bullying among children and youth is best understood as the result of an interaction between an individual and his or her social ecology—his or her family, peer group, school, and broader community. For example, although children who bully tend to share some common individual characteristics (e.g., have dominant personalities, have difficulty conforming to rules, and view violence in a positive light), research also has confirmed that there are some common family characteristics of children who bully, including a lack of warmth and involvement on the part of parents, a lack of supervision, inconsistent discipline, and exposure to violence in the home. A child's peer group also may influence his or her involvement in bullying. Children who bully also are likely to associate with other aggressive or bullying children. Not only are bullying rates influenced by characteristics associated with individual children, family units, and peer groups, but they also may be affected by characteristics of schools (e.g., have staff with indifferent or accepting attitudes about bullying) and by factors within a community or the broader society (e.g., exposure to media violence).

Effects of Bullying

Bullying can affect the mental and physical health of children, as well as their academic work. Bullied children are more likely than their nonbullied peers to be anxious, suffer from low self-esteem, be depressed, and to think of taking their own lives. They also are more likely than other children to experience a variety of health problems, such as headaches, stomach pain, tension, fatigue, sleep problems, and decreases in

appetite. On average, bullied children also have higher school absenteeism rates, are more likely to say they dislike school, and have lower grades compared to their nonbullied peers. Not only can bullying seriously affect children who bully, but it also may cause children who observe or "witness" bullying to feel anxious or helpless. Bullying can negatively affect the climate or culture of a school.

Finally, there also is reason to be concerned about children who frequently bully their peers, as they are more likely than their peers to be involved in vandalism, fighting, theft, and weapon carrying, and are more likely than nonbullying peers to consume alcohol.

Prevention and Intervention in Schools

Significant recent effort has focused on prevention of bullying in schools. Research to date suggests that the most successful efforts are comprehensive school-based prevention programs that are focused on changing the climate of the school and norms for behavior.

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See also Aggression; Power; Rejection; Sexual Harassment

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BYSTANDER EFFECT

Definition

Individuals who see or hear an emergency (but are otherwise uninvolved) are called *bystanders*. The *bystander effect* describes the phenomenon in which such individuals are less likely to seek help or give assistance when others are present. This does not mean that bystanders are apathetic to the plight of others, for bystanders often show signs of distress, anxiety, and concern if they delay responding or fail to respond at all. It also does not necessarily mean that a victim will be less likely to receive help as the number of bystanders present increases—after all, the greater the number of other people present, the greater is the likelihood that at least one of them will intervene. In the event of a medical emergency, for instance, a larger group of bystanders is more likely to contain someone trained to administer appropriate first-aid measures. Rather, the term refers simply to any given individual bystander's diminished likelihood of offering help when part of a group.

Context and Importance

As she was returning to her apartment on March 13, 1964, at 3:30 a.m., a young woman named Kitty Genovese was attacked and killed in the Kew Gardens district of Queens, a borough of New York City. Up to 38 witnesses later admitted witnessing the attack from their apartments as it was taking place, but no one intervened or reported the attack. These witnesses certainly had ample opportunity to call the police—the attack lasted between 30 and 40 minutes. The public and the media wanted to know why. Analysts and news commentators tended to focus on stereotypes of New Yorkers as being uninterested or calloused and lacking concern for their fellow human beings; they saw the event as an outgrowth of the anonymity fostered by life in a very large city. Social psychologists Bibb Latané and John Darley did not find such explanations particularly compelling; they thought that perhaps any individual in a similar circumstance might have hesitated to help. They argued that, among other reasons, it was the knowledge that there were so many other potential helpers, ironically, that inhibited each bystander's willingness to act. Indeed, since the murder of Kitty Genovese, the bystander effect has been observed literally dozens upon dozens of times in many other cities and countries, and it is not unique to New York. On November 7, 2004, in Corona, California, for instance, a security camera at a mall parking lot recorded two men kidnapping a woman. The men chased a woman around the parking lot, carrying her back to the car where the men then proceeded to stuff her into the trunk of the vehicle. The camera also recorded the images of a

dozen bystanders scattered throughout the scene and at various stages of the kidnapping. Several bystanders turned their heads to watch the incident, but none of them called the police or went to the woman's aid. The security camera even recorded automobiles that drove past without slowing down to help the screaming woman as she was being stuffed into the trunk.

The essential element of a social psychological analysis of the bystander effect focuses on the question of why individuals in groups are less likely to help or are slower to respond than those who are alone.

Evidence and Explanations

Bystander effects have been shown to occur in a variety of laboratory and field settings. Bystanders in groups are less likely to help people who are in need in a subway, or to give to individuals seeking small amounts of change for a phone call. Individuals in groups are less likely to give or seek help when someone apparently has been hurt falling from a ladder, when a stranger suffers an epileptic seizure, and when smoke pours into their room.

There are three fundamental reasons that the presence of others inhibits helping; each of these reasons grows more powerful as the number of other people present increases.

1. *Social inhibition.* For this factor to operate, individuals must believe that the others can see them. The concern here is that the individual wants to avoid attracting negative attention for misinterpreting the situation, overreacting, or doing the wrong thing. Individuals fear negative evaluation (sometimes especially from strangers) because they have a strong need to belong and be accepted. Consequently, they try to minimize rejection and exclusion by inhibiting any actions that potentially might bring derision.

2. *Pluralistic ignorance.* Another cause of the bystander effect is pluralistic ignorance (or conformity to the inaction of others). Imagine sitting in a room and hearing what sounds like someone falling off a ladder in the hallway. If alone, you might hesitate slightly to consider whether it was really an accident, but you are likely to go investigate. In a group, however, you are first likely to check out others' reactions surreptitiously to get assistance in interpreting the situation. If they, too, are calmly checking out others' reactions, then there is a room full of others who are not acting and who appear to be unalarmed. This

becomes the information that guides interpretations and, ultimately, the behavior of bystanders. In short, the message is that this is not an emergency because no one else is acting like it is an emergency; therefore, help is not needed. Pluralistic ignorance requires that the individual can see the others.

3. *Diffusion of responsibility.* Another explanation requires neither seeing others or being seen by others; it merely requires believing that others are around who could help (as was the case in the Kitty Genovese murder). This belief reduces the individual's obligation to help because others share that same obligation. The more bystanders who are believed to be present, the less responsibility the individual bears. Diffusion of responsibility has been demonstrated to be sufficient to cause the bystander effect even in the absence of conditions necessary for social inhibition or pluralistic ignorance.

A variety of factors can either lessen or amplify the bystander effect, but these factors are not likely to eliminate it. One very robust factor is group size: the larger the group is, the less likely any individual will act (or the more slowly that person will act). This is not a linear effect (i.e., it is not the case that ten bystanders are twice as slow as five bystanders), because the greatest impact occurs as the number present grows from one to two bystanders, with slightly less impact from two to three, and so on. In other words, additional bystanders beyond the seventh or eighth person have little additional impact. Other studies show that the bystander effect is smaller when the bystanders are friends than when they are strangers, when the person in need is more similar to the bystanders, and when the situation is clearly an emergency. Individual differences matter, too. Individuals who score higher in agreeableness and prosocial orientation are faster to help.

Still other studies show that the bystander effect is not restricted to emergency situations and can even explain someone's failure to help another person pick up dropped pencils, or not taking a coupon for a free meal in the presence of others. In fact, diffusion of responsibility for helping can be seen as a more general example of social loafing—that is, exerting less effort as a function of being part of a collective, no matter what the request is.

Research has demonstrated that the bystander effect is an extremely consistent phenomenon. Regardless of the nature of the situation requiring help, the type of assistance called for, the age or gender of the research

participants, or the location in which the research is being conducted, people are less likely to help when part of a group than when alone. This finding has occurred almost without exception, with the existing body of research presenting nearly 100 such comparisons to date.

The accepted but not well-tested method of countering the bystander effect is for victims to narrowcast their pleas for help ("You in the red coat, call an ambulance!") rather than broadcasting the request to everyone. The victim's singling out one person does not allow the bystander to assume that someone else may help. Being specific in the type of help that is being requested, targeting an individual from whom it is requested, and clearly indicating that the situation is an emergency will aid in eliminating many of the ambiguities that may exist, thus focusing social pressure on the individuals whose help is needed.

Implications

Bystander helping intervention is regulated both by individual differences and the power of the situation. People in general say they would help in a situation that requires aid. Research and naturalistic observations reveal, however, that having more people in a situation requiring help actually decreases the likelihood that help will be given. To combat the bystander effect, Good Samaritan laws have been created in several countries requiring bystanders, at minimum, to dial an emergency number or face legal implications.

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Alvin Ty Law

See also Diffusion of Responsibility; Informational Influence; Need to Belong; Pluralistic Ignorance; Social Loafing

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C

CATHARSIS OF AGGRESSION

Definition

According to catharsis theory, acting aggressively or even viewing aggression is an effective way to reduce angry feelings and aggressive impulses. The word *catharsis* comes from the Greek word *katharsis,* which, literally translated, means "a cleansing or purging." The first recorded mention of catharsis occurred in Aristotle's *Poetics.* Aristotle taught that viewing tragic plays gave people emotional release (*katharsis*) from negative feelings such as pity and fear. In Greek drama, the tragic hero didn't just grow old and retire—he often suffered a violent demise. By watching the characters in the play experience tragic events, the viewer's own negative feelings were presumably purged and cleansed. This emotional cleansing was believed to benefit both the individual and society.

Catharsis also played an important role in ancient religious and magical healing rituals. By venting their emotions, people presumably called forth and expelled the demons and evil spirits that possessed their bodies.

The ancient notion of catharsis was revived by Sigmund Freud, who believed that repressed negative emotions could build up inside an individual and cause psychological symptoms, such as hysteria (nervous outbursts). Freud believed that expressing hostility was much better than bottling it up inside.

Freud's therapeutic ideas on emotional catharsis form the basis of the so-called hydraulic model of anger, based on the idea of water pressure (*hydraulic* means "water-related"). The hydraulic model suggests that frustrations lead to anger and that anger, in turn, builds up inside an individual, like hydraulic pressure inside a closed environment, until it is released in some way. If you don't let your anger out but try to keep it bottled up inside, it will eventually cause you to explode in an aggressive rage. The modern theories of catharsis are based on this hydraulic model.

The entry on Media Violence and Aggression discusses whether viewing violence increases aggression. This entry will therefore focus on whether acting aggressively (e.g., screaming, yelling, hitting, kicking) increases aggression.

Belief in Catharsis Is Widespread

The belief in the value of venting is widespread around the world. For example, for over 20 years Tokyo residents have been venting their frustrations at an annual screaming contest. The use of a concept in the popular press is a sign of how widespread it is. Catharsis messages frequently appear in plays, films, television programs, radio programs, magazines, and newspapers.

You can even buy products to vent your anger. For example, the "Tension Shooter" is a wood gun that shoots up to six rubber bands per round at targets that can be personally labeled (e.g., Boss, Mother-in-Law). Another product is "Wham-It," an inflatable punching bag. Products such as these are based on the hydraulic model of anger. The companies that make them count on customers who believe that venting anger against inanimate objects is safe, healthy, and effective. If there were no such customers, such products would not exist.

The concept of catharsis even infiltrates everyday language. In the English language, a pressure cooker is often used as a metaphor for anger. (A pressure cooker

is a pot used to cook food under pressure, which reduces cooking time. The pot has a locking lid and valve that can be used to reduce pressure.) People are like pressure cookers, and their anger is like the fluid inside the cooker. As the anger increases, the fluid rises. People talk about anger "welling up inside" a person. If people are very angry, their "blood boils" or they reach the "boiling point." If the anger becomes too intense, people "explode," or "blow up." To prevent the explosion, people are encouraged to "vent their anger," "blow off steam," "let it out," and "get it off their chest."

Research Evidence

If catharsis theory is true, then venting anger should decrease aggression because people should get rid of the anger. Almost as soon as psychology researchers began conducting scientific tests of catharsis theory, they ran into trouble. In one of the first experiments on the topic, published in 1959, participants received an insulting remark from someone who pretended to be another participant (a confederate). Then some of the insulted participants were set to work pounding nails for 10 minutes—an activity that resembles many of the "venting" techniques that people who believe in catharsis continue to recommend even today. The act of pounding nails should reduce subsequent aggression (if catharsis theory is true). Participants in the control group received the same insult but did not pound any nails. Participants were then given a chance to criticize the person who had insulted them. The results showed that people who had hammered the nails were *more* hostile toward the accomplice afterward than were the ones who didn't get to pound any nails. Apparently, venting anger against those nails made people more willing to vent anger against another person. Numerous other studies have found similar findings. In 1973, Albert Bandura, a famous social psychologist, issued a statement calling for a moratorium on catharsis theory and the use of venting in therapy. A comprehensive review of the research published in 1977 found that venting anger does not reduce aggression; if anything, it makes people more aggressive afterward. The authors also concluded that venting anger can reduce physiological arousal (e.g., heart rate, blood pressure), but only if people express their anger directly against the person who angered them and that person cannot retaliate. Venting against substitute targets does not reduce arousal. More recent research has shown that venting doesn't work even among people who believe in the value of venting and even among people who report feeling better after venting. Aggression breeds further aggression.

One variation of venting is intense physical exercise, such as running. Although physical exercise is good for your heart, it is not very good for reducing anger. Angry people are highly aroused, and the goal is to decrease arousal levels. Exercise increases rather than decreases arousal levels. Also, if someone provokes you after exercising, the arousal from the exercise might transfer to the provocation, making you even angrier.

In summary, venting anger is like using gasoline to put out a fire: It just makes things worse. Venting keeps arousal levels high and keeps aggressive thoughts and angry feelings alive—it is merely practicing how to behave more aggressively.

If Venting Doesn't Work, What Does?

If the metaphor of a pressure cooker is used to describe anger, there are three ways to deal with buildup of steam. The first approach is to try to contain the pressure. The problem with this approach is that it might cause the pressure cooker to explode when it can no longer contain the pressure. Stuffing anger inside and ruminating about it continually can lead to heart disease later in life. A second approach is to periodically siphon off some of the steam. This approach of venting anger or blowing off steam sounds good in theory, but it doesn't work. A third approach is to turn down the flame and reduce the heat! With the heat down, the pressure will go down as well. This third approach is much more effective than the other two approaches at reducing anger.

All emotions, including anger, consist of bodily states (such as arousal) and mental meanings. To get rid of anger you can work on either of those. Anger can be reduced by reducing arousal levels, such as by relaxing. Anger can also be reduced by mental tactics, such as by reframing the problem or conflict, or by distracting oneself and turning attention to other, more pleasant topics. Certain behaviors can also help get rid of anger. For example, doing something such as kissing your lover, watching a comedy, petting a puppy, or performing a good deed can help, because those acts are incompatible with anger and so the angry state becomes impossible to sustain.

Brad J. Bushman

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CENTRAL TRAITS VERSUS PERIPHERAL TRAITS

Definition

A central trait is an attribute in someone's personality that is considered particularly meaningful, in that its presence or absence signals the presence or absence of other traits. For example, if a person has a warm personality, it usually means that he or she is also friendly, courteous, cheerful, and outgoing—among many other possible traits. A peripheral trait is one whose presence or absence does not imply many other characteristics. For example, if a person is sarcastic, it might imply that he or she is cynical about the world or has a dark sense of humor—but not much else.

Usage and Implications

The notion of central versus peripheral traits appears emerges in three related, but separate, areas of psychology.

Descriptions of Personality

The first usage of these terms crops up in descriptions of an individual's personality. Gordon Allport asserted that an individual's personality often contained between five to ten central traits that organized and influenced much of that person's behavior. What those five to ten traits were, however, differed from individual to individual, but if those traits could be identified, an observer could then predict how the person would respond in a wide variety of situations. At times, Allport conceded, a person's behavior might be dependent on more peripheral traits (which he termed *secondary traits*), but the operation of these traits would be much narrower than that of a person's central attributes.

Descriptions of Self

The second usage of central versus peripheral traits refers to people's perceptions of themselves. Central traits loom large in a person's self-concept; peripheral traits do not. According to psychological theorists stretching back all the way to William James, self-esteem is influenced the most by people's performances along these central traits. For example, if *intelligence* is a central trait for a person, then academic performances will have a greater impact on self-esteem than it will for someone for whom intelligence is not central.

Studies show how a trait's centrality influences self-esteem as well as behavior. People like to do well along central traits. Indeed, they like to think of themselves as superior to others along these traits. This desire can even lead people to sabotage the efforts of their friends so that they can outperform those friends along central traits, according to the work by Abraham Tesser on his self-evaluation maintenance model. Along peripheral traits, no such sabotage occurs. Instead, people bask in the reflected glory of their friend's achievements along these peripheral dimensions and feel no envy about being outperformed.

The link between trait centrality and self-esteem, however, is complex. Failure along central traits does not guarantee a significant or long-lasting blow to self-esteem. This is because people often reevaluate a trait's centrality after succeeding or failing along it. If a person chronically fails in the classroom, for example, that person can choose to de-emphasize the centrality of academic achievement in his or her self-concept. If the person succeeds in some other arena—in social circles, for example—he or she can decide to emphasize traits relevant to that arena (e.g., social skills) as more central to their self-concept. Recent evidence shows that the traits people view as central to their self-concept just happen to be the ones that they already think they have. One would expect this if people constantly reanalyzed a trait's centrality based on past successes and failures.

Impressions of Others

The third usage of the concepts central versus peripheral traits focuses on perceptions of others. Information about central traits influences perceptions of others more than does information about peripheral traits. When people hear that another person possesses a central trait (e.g., *moral*), they are more willing to make a host of inferences about that person than if they hear that the person possesses a more peripheral trait (e.g., *thrifty*).

Two classic experiments demonstrate the impact that central traits have on people's impressions of others. In 1946, Solomon Asch presented some students with a description of a person who was *intelligent, skillful, industrious, warm, determined, practical,* and *cautious.* For other students, the term *warm* was replaced with *cold.* Students later described the first person much more positively—as wiser, happier, and more humorous, for example—than they did the second person. These differences arose, Asch argued, because *warm* and *cold* are central traits that have a powerful impact on the range of conclusions people are willing to reach about others. Supporting this view, replacing *warm* and *cold* with *polite* and *blunt,* respectively, did not carry the same impact, presumably because these were more peripheral traits. Echoing Asch's findings, Harold Kelley in 1950 introduced a guest lecturer to a class to some students as a *warm* person and to others as a *cold* individual. Students receiving the first description were more likely to engage in class discussion and to rate the lecturer as effective and less formal.

One note should be mentioned about trait centrality for the self and trait centrality for judgments about others. Often, the traits considered central in the self-concept are also the traits that show up as more central in impressions of others. If *extraversion* is a trait that is central to a person's self-concept, he or she will judge others more centrally on whether they are extraverted. If *morality* is a central trait for self-esteem, morality is likely to operate as central trait in impressions of others. Theorists suspect that self-central traits are used more centrally in judgments of others because doing so bolsters self-esteem. If one's own attributes suggest so many other characteristics and abilities in other people, then those attributes must be important, and it must be good to possess such important traits.

David Dunning

See also Schemas; Self-Evaluation Maintenance

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CHEATER-DETECTION MECHANISM

Definition

The human brain can be thought of as a computer—an organic one, designed by natural selection to process information in adaptive ways. It is composed of many programs, each of which evolved because it was good at solving a problem of survival or reproduction faced by hunter-gatherer ancestors in the past. The cheater-detection mechanism is one of these evolved programs. The adaptive problem it evolved to solve is detecting cheaters in situations involving social exchange.

Usage

Whenever you exchange favors, buy things (trading money for goods), or help someone who has helped you, you have engaged in social exchange. It is a way people cooperate for mutual benefit: I provide a benefit of some kind to you, and you reciprocate by providing a benefit to me, either now or later. As a result, we are both better off than we would have been if neither of us had helped the other. Evolutionary biologists demonstrated that social exchange cannot evolve in a species unless those who engage in it are able to detect cheaters, that is, individuals who take benefits from others without providing them in return. Inspired by this finding, psychologists discovered a cheater-detection mechanism in the human brain: a program that searches for information that could reveal whether a given individual has cheated in a specific social exchange.

Background

Wherever you find humans, you will find them engaging in social exchange: It is as cross-culturally universal and typical of the human species as are language and tool use. Sometimes it is explicit and formal, as

when people agree to trade goods or services. Other times it is implicit and informal, as when a woman living in a hunter-gatherer band shares food she has gathered with someone who has helped her in the past.

That people can make each other better off by exchanging favors, goods, and help is so rational and obvious to humans that they take it for granted. But most species cannot engage in social exchange. Its presence in some species but not others says something about the programs that generate social exchange behavior. Operant conditioning produces behavior contingent on rewards received (like social exchange does). But the programs causing this general form of learning are found in all animal species and so cannot be the cause of social exchange (if they were, many or most species would engage in it). Some of our primate relatives do engage in social exchange, so it must not require the special forms of intelligence that humans possess. Indeed, schizophrenia can impair general reasoning and intellectual abilities without impairing one's ability to detect cheaters in social exchange.

Evidence from many reasoning experiments shows that reasoning about social exchange is much better than reasoning about other topics, and it activates inferences not made about other topics. The patterns found indicate that the human brain contains programs that are *specialized* for reasoning about, and engaging in, social exchange, including a subroutine for detecting cheaters (the cheater-detection mechanism).

Evidence

Consider the following situation: Your mother knows you want to borrow her car, so she says, "If you borrow my car, then you must fill the tank with gas." This is a proposal to engage in social exchange because it is an offer to provide a benefit *conditionally* (conditional on your satisfying her requirement—what she wants in return). Cheating is taking the benefit offered without satisfying the requirement that provision of this benefit was made contingent on. So you would have cheated if you had borrowed the car without filling the tank with gas.

Understanding this offer requires conditional reasoning—the ability to draw appropriate inferences about a conditional rule of the form "If P then Q." Psychologists interested in logical reasoning found that when people are asked to look for violations of conditional rules that do not involve social exchange, performance is poor. But performance is excellent when the conditional rule involves social exchange and

looking for violations corresponds to looking for cheaters. Subsequent tests show that this is not because social exchange activates logical reasoning abilities; instead, it activates inferences that are adaptive when applied to social exchange but not when applied to conditional rules involving other topics.

The cheater-detection mechanism looks for cheat*ers,* not cheat*ing*; that is, it looks for people who have *intentionally* taken the *benefit* specified in a social exchange rule without satisfying the requirement. It is not good at detecting violations caused by innocent mistakes, even if they result in someone being cheated. Nor can it detect violations of rules lacking a benefit: Conditional rules specifying what a person is required to do, without offering to provide a *benefit* in exchange for satisfying this requirement, are not social exchanges and do not elicit good violation detection.

Good performance in detecting cheaters does not depend on experience with an advanced market economy: Hunter-horticulturalists in the Amazonian rainforest are as good at detecting cheaters as are college students in the United States, Europe, and Asia. Familiarity is irrelevant: Performance is excellent for novel, culturally unfamiliar social exchange rules but poor for familiar rules not involving social exchange. By age 3, children understand what counts as cheating in social exchange but not what counts as violating conditional rules describing the world. That is, the cheater-detection mechanism develops early and across cultures.

Brain damage can impair cheater detection without damaging one's ability to detect violations of logically identical social rules that do not involve social exchange. Neuroimaging results show that reasoning about cheaters in social exchange produces different patterns of brain activation than reasoning about other social rules. This is further evidence that cheater detection is caused by a specialized mechanism in the human mind/brain.

Importance

This research shows that evolutionary biology can help one discover new mechanisms of the mind and supports the idea that minds are composed of many specialized programs.

Elsa Ermer
Leda Cosmides
John Tooby

See also Deception (Lying); Evolutionary Psychology; Social Exchange Theory

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Choking Under Pressure

We have all heard the term *choking under pressure* before. In the sports arena we talk about the *bricks* in basketball when the game-winning free throw is missed. In academic domains, we refer to *cracking* in important test taking situations. But what exactly do these terms mean and why do less-than-optimal performances occur—especially when incentives for optimal performance are maximal?

Definition

The desire to perform as well as possible in situations with a high degree of personally felt importance is thought to create *performance pressure.* However, despite the fact that performance pressure often results from aspirations to function at one's best, pressure-packed situations are where suboptimal skill execution may be most visible. The term *choking under pressure* has been used to describe this phenomenon. Choking is defined as performing more poorly than expected, given one's skill level, and is thought to occur in many different tasks.

Analysis

Some of the first attempts to account for unwanted skill decrements can be traced back to investigations of the arousal–performance relationship. According to models of this relationship (often termed *drive theories* or the *Yerkes–Dodson curve*), an individual's performance level is determined by his or her current level of arousal or *drive.* Too little arousal, and the basketball player will not have the tools necessary to make the shot. Too much arousal, and the shot will be missed as well. Although drive theories have been useful in

accounting for some types of performance failures, they fall short in a number of ways. First, drive theories are mainly descriptive. That is, drive theories link arousal and performance, but they do not explain how arousal exerts its impact. Second, within drive theory models, there are often debates concerning how the notion of *arousal* should be conceptualized (e.g., as a physiological construct, emotional construct, or both). Third, there are situations in which certain types of drive theories have trouble accounting for observed behavior. For example, one derivation of drive theory (i.e., social facilitation) predicts that one's dominant response will be exhibited in high-arousal or high-drive situations. However, this does not always seem to hold when the pressure is on.

Building on drive theory accounts of performance failure, more recent work has attempted to understand how pressure changes how one thinks about and attends to the processes involved in skill performance. These accounts are often termed *attentional theories.* Two main attentional theories have been proposed to explain choking under pressure.

First, *distraction theories* propose that pressure creates a distracting environment that compromises working memory (i.e., the short-term memory system that maintains, in an active state, a limited amount of information relevant to the task at hand). If the ability of working memory to maintain task focus is disrupted, performance may suffer. In essence, distraction-based accounts of skill failure suggest that performance pressure shifts attention from the primary task one is trying to perform (e.g., math problem solving) to irrelevant cues (e.g., worries about the situation and its consequences). Under pressure then, there is not enough of working memory's limited resources to successfully support both primary task performance and to entertain worries about the pressure situation and its consequences. As a result, skill failure ensues.

Although there is evidence that pressure can compromise working memory resources, causing failure in tasks that rely heavily on this short-term memory system, not all tasks rely heavily on working memory (and thus not all tasks should be harmed when working memory is consumed). For example, well-learned sensorimotor skills, which have been the subject of the majority of choking research in sport (e.g., simple golf putting, baseball batting, soccer dribbling), are thought to become proceduralized with practice such that they do not require constant attention and control— that is, such skills are not thought to depend heavily

on working memory at high levels of learning. How then do such skills fail, if not via the consumption of working memory resources? A second class of theories, generally known as *explicit monitoring theories,* has been used to explain such failures.

Explicit monitoring theories suggest that pressure situations raise self-consciousness and anxiety about performing correctly. This focus on the self is thought to prompt individuals to turn their attention inward on the specific processes of performance in an attempt to exert more explicit monitoring and control than would be applied in a nonpressure situation. For example, the basketball player who makes 85% of his or her free throws in practice may miss the game-winning foul shot because, to ensure an optimal outcome, the player tried to monitor the angle of the wrist as he or she shot the ball. This component of performance is not something that the basketball player would normally attend to. Paradoxically, such attention is thought to disrupt well-learned or proceduralized performance processes that normally run largely outside of conscious awareness.

From the previous description of distraction and explicit monitoring theories, one might conclude that performance pressure exerts one kind of impact on cognitive skill performance and another kind of impact on sensorimotor skill performance. It seems more likely, however, that pressure always exerts at least two different effects: It populates working memory with worries, *and* it entices the performer to try to pay more attention to step-by-step control, resulting in a double whammy. These two effects may be differentially relevant to performance depending on the attentional demands of the task being performed. If a task depends heavily on working memory but does not involve much in the way of proceduralized routines (e.g., difficult and novel math problem solving), then it will suffer from pressure-induced consumption of working memory, but it will not be harmed by the attempt to focus what attention remains on step-by-step control that is also induced by pressure. Conversely, if a task relies heavily on proceduralized routines but puts little stress on working memory (e.g., a well-learned golf putt), then that task will suffer from performance pressure because of the shift of attention to step-by-step control and not because the overall capacity of working memory has been reduced.

In conclusion, research examining the choking under pressure phenomenon does not seek merely to catalogue instances of performance failure but also attempts to shed light on the reasons why skills fail in high-stakes situations. Such knowledge aids in the development of training regiments and performance strategies designed to alleviate these less-than-optimal performances.

Sian L. Beilock

See also Arousal; Attention; Automatic Processes; Drive Theory; Social Facilitation

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CLOSE RELATIONSHIPS

Definition

Why are we attracted to some people? How do people know they are in good relationships? Why do people fall in love? Does good communication really produce successful relationships? Are men really from Mars and women from Venus? These are just some of the intriguing questions that social psychologists attempt to answer. Indeed, the study of close relationships has become one of the most important domains in social psychology over the past several decades.

But what are close relationships? It turns out that answering this question is not as easy as it seems. One key concept, developed by Harold Kelley and John Thibaut in the 1960s and 1970s, describes close relationships in terms of *interdependence.* Close relationships differ from having acquaintances by the profound way in which the well-being and psychological

processes of one individual resonate with, and are tied to, the same processes in another person. Furthermore, close relationships are characterized by relatively high levels of trust, love, knowledge, commitment, and intimacy. However, close relationships themselves divide into two further categories: platonic friendships versus romantic relationships. Romantic relationships differ from close platonic friendships in two major ways. First, romantic relationships contain the elements of sex and passion, and second, individuals are typically involved in just one romantic attachment at one time. Friendships can be intense and are of enormous psychological importance in our lives, but most research in social psychology has been devoted toward understanding romantic relationships. Accordingly, this entry focuses on this domain in this synopsis.

A Brief History

A social psychological approach to close relationships focuses on the interaction between two individuals, paying close attention to both behavior and what goes in people's minds (emotions and cognitions). Within social psychology, up to the late 1970s, research into relationships concentrated on interpersonal attraction; namely, what factors lead people to be attracted to one another at the initial stages of relationship development? This research tended to be atheoretical and the results read like a shopping list of variables that influence attraction, including similarity, proximity, physical attractiveness, and so forth. In the 1980s the psychological zeitgeist shifted toward the study of the much greater complexity inherent in the development, maintenance, and dissolution phases of dyadic romantic relationships. This shift was prompted by several key developments in the 1970s. First, John Gottman and others in the clinical area began research that, for the first time, observed and carefully measured the dyadic interchanges of married couples in an attempt to predict who would divorce. Second, Zick Rubin and others became interested in love and devised reliable scales that could measure the concept. Third, Harold Kelley led a team of social psychologists in producing a seminal book published in 1983 (*Close Relationships*), which presented the first full-blooded treatment of close relationships from an interactional, social psychological perspective.

Social psychological research in psychology over the past two decades has been marked by three major developments. First, there has been an explosion of work concerned with understanding the role that social cognition (beliefs, cognitive processes, etc.) and emotions play in intimate relationships. This work has borrowed theories and methodologies from both social and cognitive psychology. Second, there has been a burgeoning interest in how attachment and bonding processes contribute to adult romantic relationships. Attachment research in adults appropriated the basic theories from the work in the 1960s and 1970s by John Bowlby and Mary Ainsworth concerning infant–caregiver attachment bonds. Third, the study of interpersonal attraction (in the context of romantic relationships, this is typically labeled *mate selection*) has once again become a hot topic, but under the new banner of evolutionary psychology. This approach is based on the evolutionary work of Darwin, but it has been honed into modern social psychological guise by figures such as David Buss and Jeffry Simpson.

Thus, as can be seen, social psychologists have freely borrowed from other domains in studying close relationships. However, this process is a two-way street, with social psychological research and theorizing being imported back into and enriching these same domains. Social psychologists have made important contributions in four major domains: how people choose their mates, love and commitment, communication and relationship interaction, and gender differences in the context if romantic relationships. Each of these domains will be discussed here.

Searching for the "Ideal" Mate

In New Zealand, the United States, African hunter–gatherer cultures, indeed around the world, people focus on similar categories in evaluating potential mates: personality factors related to warmth and intelligence, cues related to attractiveness and health, and the possession of status and resources. Moreover, there is remarkable agreement across both gender and cultures concerning which factors are most important in selecting mates for long-term relationships: The winner is warmth and loyalty, a close second is physical attractiveness and general vitality, and down the track is status and resources.

Research suggests that individuals do not differ simply in whether they set their mate standards as demanding or modest. Rather, they attach more or less importance independently across these three categories. Thus, some people (both men and women) are essentially on the hunt for an exciting, passionate

relationship, whereas others care relatively little about passion and are preoccupied with the search for intimacy, warmth, and commitment. Yet still others are prepared to sacrifice somewhat on the passion and intimacy front, if they can obtain a partner with considerable status and resources.

Why do people not want it all? Why is Jane's ideal partner not incredibly kind, handsome, remarkably fit with a wonderful body—and rich? First, such people might be plentiful in TV soap operas, but in real life they are remarkably thin on the ground. Second, even when Jane meets such a male paragon, he will probably not be interested in Jane (who is not a perfect 10 in every category). Third, even if Jane succeeds in striking up a relationship with such a catch, he may be difficult to retain, and Jane may find she needs to invest an exhausting amount of time and resources in maintaining the relationship.

The name of the mating game is to do the best one can in light of the available pool of mates, one's own perceived mate value, and other prevailing circumstances. What causes individuals to attach different amounts of importance to different ideal categories? Perhaps the major factor is self-perceived mate value. For example, those who perceive themselves as more attractive give more weight to this particular aspect in choosing a mate. This is one major reason why people are strongly similar with their mates on factors such as physical appearance and education level.

Evolutionary-based models of mate selection typically frame their predictions and explanations relative to two different goals: the search for a short-term sexual fling or the search for a mate who would make a suitable partner in a long-term committed relationship. It should be stressed that these goals are not necessarily conscious and typically find their expression in emotions and desires. This distinction in goals is exploited by Steve Gangestad and Jeffry Simpson to argue that humans can, and do, change their mating aims depending on circumstances, but both men and women may adopt a characteristic mate-selection style as a function of their upbringing, personal experiences, situational contingencies, and so forth.

In short-term sexual liaisons, women need to invest heavily in any subsequent offspring resulting from such a union but will not have the benefit of a lifelong mate and father for the children. Thus, in this context, women should be mainly on the hunt for an attractive man (good genes) rather than for a sensitive and supportive mate. In short-term settings, men also should

not be much interested in their mate's suitability as a long-term partner, but, if they have a choice, they should go for the best genes (e.g., the sexiest woman in the bar). However, because the potential investment in subsequent offspring for the woman is vast, compared to the man flitting through town, the woman should be even choosier than the man in this context.

Research has generally affirmed this theorizing. Several studies have found that when men and women are asked about their minimal requirements in a mate for a one-night stand, men typically express more modest requirements than do women on factors associated with warmth, loyalty, intelligence, status, and so forth. Given that men are generally more persuadable than women when it comes to rapid sexual conquests, women can afford to be much choosier than men in such a context. In a famous study, Russell Clark and Elaine Hatfield had (brave) male and female confederates approach members of the opposite gender on the campus at the Florida State University and ask them if they would go to bed with them. Seventy-two percent of the men agreed, whereas none of the women did.

The standards used in evaluating mates are also influenced by local circumstances. James Pennebaker and his colleagues found that, as the hours passed, both men and women perceived potential mates in bars as more attractive. Further research has replicated the finding for both genders, confirmed that the effect is not simply caused by people steadily getting drunk, and shown that the effect only occurs for those who are not involved in an intimate sexual relationship (and who are thus more likely to be monitoring the bar for potential mates).

Overall, however, the standards that are maintained most steadfastly across short-term and long-term relationships are concerned with physical attractiveness, and this is true for both men and women. These findings are consistent with the theory that physical attractiveness and vitality form the primary "good genes" factor: In a short-term relationship all one is getting out of the deal (reproductively speaking) are (potentially) the other person's genes. In a long-term mating scenario, women should be exceptionally picky about the factors that make for a good parent and a supportive mate, that is, warmth/loyalty and status/resources. They should also be interested in good genes (attractiveness and vitality), but they may be prepared to trade such characteristics against the presence of personal warmth and loyalty or money and status. Men should certainly be more interested in the woman's

ability to be a supportive mate and parent than in the short-term mating context, and they should also maintain their search for a woman with good genes; after all, men make substantial investments as a father and partner in long-term relationships.

However, in evolutionary terms, the woman's eggs are more or less all in one basket: The success with which she can pass her genes on is dependent on her husband (and wider family). In contrast, the man has more options. He can continue to spread his genes around while he is married, and he will remain fertile with the ability to father children for many more years than women are able to muster. Thus, evolutionary logic dictates that a high level of investment by the man should be more important to the woman than vice versa (although, in absolute terms, high levels of investment should be important to both genders in long-term relationships).

There is a wealth of research that supports the existence of gender differences in what people want in a partner and relationship. In long-term relationships, men tend to attach more importance to attractiveness and vitality than do women, and women tend to give more weight to loyalty and warmth and to status and resources than do men. These findings have been found in many cultures and have been replicated consistently within Western cultures by research using standard rating scales or by analyzing the contents of personal advertisements. An important caveat is that the size and significance of such gender differences are sensitive to the cultural context. Alice Eagly and Wendy Wood found that as women's empowerment (indexed by their earnings, their representation in legislative government, and their involvement in professional positions) increased relative to men across cultures, women placed increasingly less value on the status and earnings of a mate.

Love and Commitment

One of the most important generalizations established by social psychologists is that the way in which relationships develop is profoundly linked to what people bring with them into the relationship as mental dispositions, that is, expectations, beliefs, and personality traits. As noted previously, individuals select mates (in part) by the extent to which they meet important standards on dimensions such as warmth, attractiveness, and status. Hence, there exist strong similarities between partners on such factors. However, expectations and standards never sleep. As knowledge of the

other develops, and individuals and perceptions change, people continue to evaluate their partners and relationships by how they meet expectations and standards. The discrepancies between expectations or standards and perceptions of reality are then used to accomplish four pivotal major goals or functions in intimate relationships: evaluation, explanation, prediction, and control.

Take Fiona, who places huge importance on passion and sex in relationships and, thus, places a premium on vitality and attractiveness in evaluating a mate. Fiona was very attracted to Charles initially, mainly because he was athletic and attractive. Two years into the relationship, Charles has gained a lot of weight, and he has lost interest in going to the gym. Fiona's evaluations of Charles are, as a result, on the slide, and she is having doubts about the long-term future of the relationship (the evaluation function). Fiona can use the gap between her ideals and perceptions to help provide her with an explanation of why she is dissatisfied with her relationship: Charles is letting himself go (the explanation function). Fiona can also use the gap between her ideals and perceptions to predict the future of the relationship: Unless Charles takes better care of himself, the relationship is doomed (the prediction function). Finally, on the basis of her evaluation, explanation, and prediction, Fiona may actively attempt to change her partner's behavior, for example, by buying Charles a year's subscription to a health club for his birthday (the control function).

Research evidence suggests that this story about Fiona and Charles accurately reflects the psychological reality of relationships. Provided prior pivotal expectations are reasonably met in close relationships, the conditions are set for love, commitment, and trust to flourish. However, another important determinant of the capacity to trust and to form healthy adult intimate relationships are what are termed *working models,* which are composed of beliefs and expectations concerning the behavior of both self and others in intimate settings. This construct was initially developed by John Bowlby in the 1970s (as a part of what is termed *attachment theory*) as a tool to explain how pivotal interactions that infants have with caregivers continue to influence individuals as they develop into adulthood.

The first application of attachment theory to adult romantic relationships was published by Cindy Hazan and Phillip Shaver in 1987, triggering a massive surge of theorizing and research dealing with adult attachment. Interestingly, there are many similarities between

the love that develops between parents and children and adult romantic love. For example, lovers often use favorite nicknames, slip into singsong cadences, have strong needs to spend a lot of time together, often caress and kiss one another, seem fascinated with each other's physical appearance, and engage in long bouts of prolonged eye contact. Exactly the same is true of parent–infant interactions. The underlying neurophysiological processes are also similar, with the same "love" hormones, such as oxytocin, involved in both adult–infant attachment and adult–adult romantic love.

The similarity between adult–adult and child–parent forms of attachment supports the argument that evolutionary processes have lifted and reworked the ancient mechanisms that promote mother–infant bonding in mammals to promote pair-bonding between humans. Thus, romantic love consists of an exceptionally strong attachment that inspires strong emotional drives toward commitment and caring, along with the passion and excitement that derives from sexual activity.

Moreover, adult attachment working models come in two broad dimensions or styles similar to those found in infant attachment styles: secure versus avoidant, and anxious or ambivalent. Those who possess secure (nonavoidant) attachment working models are comfortable with intimacy and closeness and are happy to rely on others for support and succor. Ambivalent individuals intensely desire closeness and intimacy but are fearful of rejection and are constantly vigilant for signs that their partners may betray them or leave.

Adult attachment working models are relatively stable, but they are also sensitive to experiences in intimate relationships. Having a successful and happy relationship pushes people into secure working models, whereas relationship breakups move people in the opposite direction. For example, Lee Kirkpatrick and Cindy Hazan reported that 50% of a sample of 177 individuals who were originally secure, and who experienced a relationship breakup, switched temporarily to an avoidant style. Moreover, as infants develop into adults, attachment working models become differentiated across domains. Thus, research has found that an individual may have an avoidant working model for romantic relationships but a secure working model for friends or family.

Working models have the same functions in social interaction (as previously described) concerning discrepancies between standards and perceptions of the partner or relationship; namely, they help people to evaluate, explain, predict, and control their relationships.

For example, Nancy Collins has shown that when secure individuals explain negative behaviors from their partners (e.g., failing to comfort them when they were depressed), they are inclined to produce charitable, relationship-positive attributions (e.g., the partner had a bad cold) apparently designed to retain their belief in the essential warmth and trustworthiness of their partner. In contrast, ambivalent individuals tend to adopt a relationship-negative pattern and emphasize their partner's indifference to their needs and lack of commitment.

In a pioneering piece of research, Simpson and colleagues tested Bowlby's hypothesis that attachment systems should kick into action when individuals are under stress. In this research, the female members of dating couples were initially stressed (by being shown some fearsome-looking apparatus they were supposedly about to be hooked up to in an experiment). The chilled women then returned to sit with their partners in a waiting room, during which time the couple's behavior was surreptitiously videotaped. The more stressed the individual women became, the more their attachment styles (assessed prior to the experiment) seemed to influence their behavior; secure women sought support whereas avoidant women avoided seeking support from their partner, to the point of expressing irritation if their partners asked what was wrong or proffered support. Moreover, secure men offered more emotional and physical support the more anxiety their partners displayed, whereas the avoidant men became less helpful and, again, actually expressed irritation.

Finally, people enjoy thinking, analyzing, writing, and talking about their own and others intimate relationships in a thoroughly conscious fashion. However, research carried out by Mario Mikulincer (and many others) has demonstrated that relationship attachment working models, beliefs, and expectations also automatically and unconsciously influence everyday relationship judgments, decisions, and emotions.

Communication and Relationship Interaction

The belief that good communication produces successful relationships seems close to self-evident. Yet, such unadorned claims are problematic from a scientific perspective, partly because defining and measuring the nature of (good) communication is anything but straightforward. However, there is general agreement that the way in which couples deal with the inevitable conflict or problems that crop up in relationships, and

how they communicate their subsequent thoughts and feelings to one another, is a critical element (many have suggested the critical element) in determining the success of intimate relationships. Almost everyone experiences dark or uncharitable emotions and thoughts in intimate relationships. Two general competing accounts have been advanced specifying how individuals should best deal with such mental events: the good communication model and the good management model.

The good communication model is based around three empirical postulates, describing what couples in successful relationships are supposed to do with their negative thoughts and emotions. First, they frankly express their negative feelings and cognitions (albeit in a diplomatic fashion). Second, they deal openly with conflict—they don't stonewall, withdraw, or go shopping. Third, they honestly attempt to solve their problems. If the problems are not dealt with, then it is believed they will stick around and eat away at the foundations of the relationship over time, or return at a later date possibly in a more corrosive and lethal form.

The good management model is also based around three empirical postulates. First, the regular and open expression of negative thoughts and feelings is posited as corrosive for relationships. Second, it is proposed that exercising good communication skills often involves compromise and accommodation to the partner's behavior (and not shooting from the hip with uncharitable emotions and cognitions). Third, relationships always have problems or issues that cannot be solved. People in successful relationships supposedly recognize them, accept them as insoluble, and put them on the cognitive backburner. They don't get obsessive about them or fruitlessly struggle to solve them.

Both models possess some intuitive plausibility. Moreover, each has a body of research evidence to call upon in support. Buttressing the good communication model, studies by John Gottman and others have found that avoidance of conflict and less frequent expression of negative emotions and thoughts in problem-solving discussions are associated with lower relationship satisfaction and higher rates of dissolution. In support of the good management model of relationship success, research has shown that those in more successful relationships tend to sacrifice their own personal interests and needs, swallow hard, and ignore or respond positively to their partner's irritating or negative behaviors.

This apparent paradox can be solved in several ways. First, extensive research has shown that the way

in which people interpret and explain negative relationship behavior plays an important role. If Bill's partner is short with him, Bill's causal attributions will determine the end result. If Bill attributes insensitivity to his partner and blames her, he may well yell at her. On the other hand, if Bill attributes her remark to a cold she is suffering from, he is more likely to forgive her lapse and show solicitude. Second, it may depend on the compatibility between partners rather than on the style of communication itself. There is evidence that relationships in which one individual is vainly attempting to discuss a problem (most often the woman) while the other partner withdraws and stonewalls (most often the man) are associated with both short-term and long-term unhappiness. Third, a social psychological approach would suggest that the ability of individuals to adjust their expression of negative thoughts and feelings as a function of the situational requirements might also play a decisive role.

The last point cited (i.e., the ability to strategically alter levels of honesty and expression) is nicely illustrated in the research on anger in relationships. The expression of anger (within bounds) seems to be mildly beneficial for relationships when couples are in conflict-resolution mode. In this context, anger communicates to one's partner that (a) I am not a doormat; (b) this is important to me, so listen to what I am saying; (c) I care enough about the relationship to bother exhibiting my concerns; and (d) will you "please" alter your behavior! On the other hand, the expression of even mild anger when the partner needs support and soothing is particularly corrosive for relationships. In this context, the lack of support combined with the expression of mild irritation communicates (a) I don't care for my partner, or (b) I do not love my partner, or (c) I cannot be counted on when the chips are down.

Thus, it may well be the ability to adjust communication strategies and behaviors according to the contextual demands that is critical in maintaining close and successful relationships. Partners who adopt either the good communication or the good management strategy as a consistent default option, across time and across social contexts, will have fewer psychological resources to cope with the inevitable relationship hurdles thrown across their paths. Of course there are two people to consider in intimate relationships, so the way in which couples negotiate and harmonize their individual communicative styles will be an important ingredient in determining relationship success. However, one relationship size does not fit

all. There exist a range of relationship communication styles that all appear to be successful, but which are strikingly different from one another.

Communication style is important in predicting relationship success, but it is clearly not the only important factor. A large body of research has accumulated that documents the best predictors of relationship happiness and longevity. Perhaps surprisingly, the evidence that similarity is an important factor is mixed, with many studies reporting null results, although (reflecting the power of the relationship mind) a well-replicated finding shows that couples who *perceive* themselves as more similar are considerably happier with their relationships. The two most powerful predictors of relationship success are more positive perceptions of relationship quality and more positive interactional behavior when problems are being discussed or one partner needs help or support. Measuring just these two factors enables researchers to successfully predict from 80% to 90% of couples who will stay together in marital or premarital relationships.

Gender Differences

Well-documented gender differences in intimate relationships can be summarized by four propositions. First, women are more motivated and expert lay psychologists than men in intimate relationships (e.g., women talk and think about relationships more than men do and are more accurate at reading emotions and thoughts in their partners than men are). Second, men adopt a more proprietorial (ownership) attitude toward women's sexuality and reproductive behavior (e.g., men exhibit stronger sexual jealousy at hypothetical or actual sexual infidelities). Third, men possess a stronger and less malleable sex drive and a stronger orientation toward short-term sexual liaisons than do women (e.g., men masturbate more and have more frequent sexual desires than do women). Fourth, women are more focused on the level of investment in intimate relationships than are men (e.g., women rate status and resources in potential mates as more important than do men).

The origin of these gender differences remains a controversial issue. Evolutionary psychologists argue that they are linked to biological adaptations derived from gender differences in investment in children (women invest more), differences in the opportunity to pass on genes (men have greater opportunity), and uncertainty about who is the biological parent of children (for men but obviously not for women). Some theorists, in contrast, posit that culture is the main driving force behind gender differences. Of course, these are not either-or options, the most sensible conclusion being that both factors are important in explaining gender differences in intimate relationships.

Some caveats are in order. First, there are substantial within-gender differences for all four of these aspects that are typically greater than the between-gender differences. This pattern typically produces massive overlap in the distributions of men and women. For example, Gangestad and Simpson estimated that approximately 30% of men are more opposed to casual sex than are average women (in spite of men overall exhibiting more approval of casual sex than women). Second, men and women are often strikingly similar in their aspirations, beliefs, expectations, and behavior in intimate relationships. And, finally, as previously pointed out, gender differences come and go in magnitude depending on the circumstances.

Conclusions

The public is sometimes derisive of social psychologists' study of love and research questions like "Does good communication make for successful relationships?" They may believe that common sense already provides what people need to know about love. Either that, or they claim that romantic love is a mystery nobody can explain. These common beliefs are false. It does not pay to be overly confident about maxims learned at one's caregiver's knee or garnered from the latest column one has read about relationships in a magazine. Some popular stereotypes about relationships are true, others are false, and many are half-truths.

On the other hand, lay beliefs or lay theories should not be dispensed with automatically as unscientific rubbish. After all, laypeople share the same set of aims with scientists, namely, to explain, predict, and control their own relationships. Psychological folk theories and aphorisms concerned with love and relationships have developed over thousands of years. Given that humans are still here and prospering, it is unlikely, to say the least, that such lay theories should turn out to be utterly false and therefore useless as tools for people to use for predicting, explaining, and controlling their own relationships. Moreover, even if commonsense theories or maxims are false, this does not mean that they are not worthy of scientific study. False beliefs cause behavior every bit as much as true

beliefs do. Thus, (social) psychologists who wish to explain relationship behavior or cognition are forced to take the existence of commonsense beliefs and theories into account, even if such beliefs are false.

The social psychology of close relationships has a dual role. It increases understanding of intimate relationships while simultaneously contributing to scientific understanding of the basic building blocks of psychology: cognition, affect, and behavior. And this is simply because so much of human cognition, emotion, and behavior is intensely interpersonal in nature.

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See also Attachment Styles; Attachment Theory; Attraction; Evolutionary Psychology; Intimacy; Love; Triangular Theory of Love

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COGNITIVE CONSISTENCY

Definition

1. You have a friend named Jeff who likes to smoke cigarettes regularly. After attending a lecture on the grave cause–effect relationship between smoking and cancer, he quits. Why?

2. This evening, you will be meeting with two people, Chris and Jean. You really like Chris, but you don't like Jean. However, Chris really likes Jean. Over the course of the evening, do you think that your attitude toward Jean will change?

3. About 50 years ago, a small group of people were told by a spaceman that the world was going to end. They were also told that at an appointed date and time (December 21, at midnight), a "visitor" would come and take them to a spaceship to be saved from the pending cataclysm. The small group prepared for their departure for many weeks. When midnight struck on the December 21, nothing happened. Nobody came, nor did the world come to an end. Do you think these outcomes changed their beliefs?

In these three situations, the concept of *cognitive consistency* may be used to predict and explain the various outcomes. Given the assumption that pleasant psychological states (i.e., balanced states) are preferred over those that are unpleasant,

> *cognitive consistency* can be defined as the concept that individuals have a preference for their thoughts, beliefs, knowledges, opinions, attitudes, and intents to be congruent, which is to say that they don't contradict each other. Further, these facets should be congruent with how individuals see themselves and their subsequent behaviors. Incongruency or asymmetry leads to tension and unpleasant psychological states, and individuals will seek change in order to reach congruency, reduce tension, and achieve psychological balance.

Within this definition, the term *cognitive* refers to "thoughts, beliefs, knowledges, opinions, attitudes, and intents." (The word *cognitive* is roughly equivalent to the word *mental*.) Thus, the term is defined rather broadly and encompasses almost anything that humans hold consciously. The term *consistency* refers to consistency across cognitions, meaning that cognitions should be in agreement, symmetrical, balanced, or congruent. Cognitions that are conflicting (asymmetrical) place individuals in an unpleasant psychological state. Since pleasant states are preferred, individuals experience a pressure to have these conflicting cognitions resolved, and they take action to reduce tension and reach psychological balance.

Cognitive consistency is one of the earliest concepts associated with social psychology. Fritz Heider is typically credited with first noting, in 1946, the concept within social psychological theory. However, in the 1950s, a flurry of psychological theory incorporated the term, with various applications and improvisations. Pioneering social psychology figures such as Leon Festinger, Fritz Heider, Theodore Newcomb, and Charles Osgood all produced theories incorporating cognitive consistency and supportive research. It is these theorists and their work which form the core group of *cognitive consistency theories,* including

cognitive dissonance (Festinger), balance or p-o-x theory (Heider), the A-B-X system (Newcomb), and the principle of congruity (Osgood). Beyond this core group, a host of other theorists have continued to incorporate the concept. Over the years, cognitive consistency, especially Festinger's theory of cognitive dissonance, has produced a wide body of research in both laboratory and applied settings, and has been shown to be valid and robust. It is a key concept within all social psychology textbooks, especially regarding attitude change, and continues to be a studied commodity within social psychology and related fields.

To help illustrate the concept, take a look at the examples from the beginning of this section. Scenario 1 is one of the simplest applications of cognitive consistency. Your friend Jeff likes to smoke, and prior to attending the health lecture, this attitude was not in conflict. However, after attending a lecture on the health consequences of smoking, his enjoyment of smoking and knowledge about the negative health effects of smoking are now in conflict. Holding these two contradictory beliefs creates tension, which leads Jeff to want to reduce the tension. To do this, he quits smoking, thereby regaining balance. You may be asking, "Can't Jeff choose to smoke anyway, and ignore the health consequences?" That is indeed an option—to reduce the tension between the conflicting cognitions, Jeff could deny the validity of the health consequences of smoking to reach balance.

Scenario 2 is an application of Heider's *balance theory*. Balance theory suggests that cognitive consistency or balance is expected across the three entities (viewed as a unit): the person (p), another person (o), and an attitude object (x). Within Scenario 2, there is a lack of consistency (i.e., the "unit" is out of balance). You like Chris but dislike Jean. However, Chris likes Jean. This tension must be resolved. You can either (a) decide to dislike Chris, or (b) decide to like Jean. Either choice will lead to balancing the system. Ultimately, if Chris is a good friend, you may decide to take a liking toward Jean at the end of the evening.

Scenario 3 is loosely based on a true story described in the book *When Prophecy Fails* (by Leon Festinger and colleagues). After the visitor fails to arrive at midnight, the group does not abandon their beliefs. Instead, they adopt various reasons for the person not showing, and hence their beliefs stay in tact. From a cognitive consistency standpoint, this makes sense. The reality of the visitor failing to arrive conflicts with what they had vehemently believed. The cognitive discomfort (called *dissonance,* according to Festinger) resulting from this conflict subsequently led to various explanations being adopted by members of the group to bolster their earlier beliefs. Even days afterward, some members refused to accept the reality that there was never going to be a visitor and that the world was not going to end.

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See also Balance Theory; Cognitive Dissonance Theory

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Cognitive Dissonance Theory

Definition

Introduced by Leon Festinger in 1957—and since that time debated, refined, and debated again by psychologists—cognitive dissonance is defined as the aversive state of arousal that occurs when a person holds two or more cognitions that are inconsistent with each other. The concept of dissonance was once enormously controversial, but its support through five decades of research has made it one of the most widely accepted concepts in social psychology.

Cognitive dissonance can explain a variety of ordinary and extraordinary events in our social lives. Indeed, for a concept to have as long and active a "shelf life" as dissonance, it must either help us see our social world differently, help us to understand why certain phenomena occur, or allow us to make (and confirm) interesting and nonobvious predictions about human nature. The theory of cognitive dissonance has accomplished all three.

To break the definition into its components, let us consider first what is meant by *inconsistent cognitions,* for it is the simultaneous holding of inconsistent cognitions that gives rise to the experience of dissonance. Festinger thought of a cognition as any piece of knowledge that we have. We can have knowledge about out beliefs, our behavior, our feelings, or about the state of the environment. We may have dozens of cognitions of which we are at least dimly aware at any moment in time and innumerable more of which we can become aware, once our attention or memory is set in motion. Most of the cognitions that we have are not related to each other in any obvious way. For example, my knowledge that I am hungry and my knowledge that the Earth travels around the Sun are two cognitions, but my hunger bears no relationship to the trajectory of the planets. However, some cognitions are directly related. My knowledge that I am hungry is very much related to my behavior at the local restaurant in which I am sitting. If I order a meal, the knowledge of that behavior is related to my knowledge that I'm hungry. In fact, it is quite consistent with my hunger. However, if I decide to forego the meal, or simply order a cup of coffee, my ordering behavior is again related to my hunger, but this time it is *in*consistent.

Cognitive dissonance is all about the consequences of inconsistency. We prefer consistency to inconsistency and work hard to maintain (or restore) consistency among our cognitions. Failing to order food to allay my hunger at the restaurant, I may convince myself that I was not really that hungry, or that the restaurant's food was bad. In this way, the inconsistency between my knowledge of my hunger and the decision not to purchase food would seem more consistent. In many ways, the need to restore consistency is similar to the familiar concept of rationalization— indeed, rationalization is one way to deal with the dilemma posed by inconsistent cognitions.

Formally, the state of cognitive dissonance occurs when a person holds one cognition that follows from the obverse of another cognition. For example, not ordering food at the restaurant would follow from the obverse or opposite of being hungry. If I were full, I would not be expected to order food. But I was not full, and thus the decision to refrain from eating would follow from the obverse of my knowledge that I was hungry. The condition for dissonance is met.

How does cognitive dissonance feel? Dissonance is experienced as an unpleasant emotion, akin to feeling uncomfortable, bothered, or tense. In addition, dissonance is motivational. When we experience dissonance, we are motivated to reduce it, much like the way we are motivated to reduce physical drives such as hunger and thirst. The more dissonance we experience, the more we are motivated to find a way to reduce it. This need can lead to the kinds of rationalizing behaviors, such as those encountered in the restaurant scenario. Not ordering food when hungry creates a state of cognitive dissonance. Rationalizing, by convincing ourselves that we were not so hungry after all, reduces the inconsistency and thereby reduces the unpleasant state of dissonance.

The History of Dissonance Research: Predictions and Findings

Choices, Choices

The occasions that cause us to experience dissonance are ubiquitous. Whenever we make a choice, there is the potential for dissonance. Imagine that you are purchasing an automobile. It is a tough choice with many alternatives from which to choose. Let's say you have narrowed the field to your two favorite options: a slightly used BMW and a brand-new Neon. You consider the pros and cons of each car. The BMW is fast, gorgeous, and attracts positive attention. The Neon is new, so you can get a full selection of colors and a multiyear warranty. On the other hand, the BMW, being old, is more likely to break down, the cost of repairs is high, and you must take it in green. The downside of the Neon, you believe, is that it is slow, less attractive, and handles sluggishly. You choose the BMW, satisfied that, on balance, it provided more of what you were looking for than the Neon.

But wait . . . you have now selected a car that has several negative features. What if it breaks down? What if your friends hate the color green? And what do you do about the features of the Neon that you are giving up? You liked the warranty, and now you don't have it. You liked the price, but you've now spent more money buying the BMW. All of these thoughts are inconsistent with your decision to buy the BMW. According to the theory of cognitive dissonance, you experience an unpleasant tension. Each time you think of a cognition that supported the Neon over the BMW, your tension rises. You are driven to reduce it. What can you do? Here are some possibilities: (a) You can

increase the importance of some of the factors that caused you to like the BMW in the first place. Suddenly, speed seems like the most important dimension you can think of when it comes to buying a car. (b) You can reduce the importance of some of the good features of the Neon. For example, you decide that warranties are often deceptive and the parts of cars that break are usually not covered. (c) You can add cognitions that support your choice that you hadn't considered previously. You may think about how many more people will be friends with you when you drive the BMW or how many people would have thought you were dull if you had picked the Neon. In the end, you may perform any or all of the cognitive changes that help you reduce your dissonance. And there is a measurable consequence to these cognitive changes. When you made your choice, you liked the BMW a bit more than you liked the Neon. By the time you are finished with your rationalizations and distortions that have been at the service of reducing cognitive dissonance, you will like the BMW *much better* than the (now) boring little Neon!

The predictions in the automobile purchasing scenario were confirmed in the first reported laboratory research on cognitive dissonance. In his 1956 study, Jack W. Brehm asked consumers to rate a variety of household items such as blenders and toasters. He told the consumers that they would be able to take home one of two items from the longer list of products. To create a high degree of dissonance, similar to the automobile example, Brehm asked the participants to choose between two highly attractive, closely related products. Brehm predicted that, just like the hypothetical BMW example, the consumers would rate the chosen product much more highly than they had rated it previously, and that they would downgrade the product that they did not choose. This is exactly what happened.

Changing Your Attitudes for Less

Here is another "thought experiment": Imagine that a researcher asks you to write an essay in which you argue that tuition rates at public and private colleges should increase. The researcher tells you that the Dean of your college is trying to understand the arguments in favor of and against tuition increases, and you have been asked to write in favor. You think to yourself that this would be difficult because you do not want to see

tuition rates increase. The researcher tells you that you can decide whether or not to write the essay, but he would really appreciate your doing it. You think it over and then agree. Now, you have a cognitive dissonance dilemma. Writing an essay in favor of a tuition increase is discrepant with your negative attitude about tuition. But you agreed that you would write it. This scenario should arouse dissonance. What can you do? Among the alternatives at your disposal is to decide that you really are not against tuition increases after all. If you actually believe that it is okay to raise tuition rates, then there will not be any cognitive dissonance resulting from your writing the essay. Similarly, it may be that politicians who are cajoled to support issues that they initially do not believe suffer the aversive state of dissonance and reduce it by coming to believe the position that they had just advocated—even though they did not believe it when they agreed to make the speech.

Once again, research in the laboratory demonstrated the truth of this prediction. Just as in the previous scenario, Festinger and his student, J. Merrill Carlsmith, showed that college students who agreed to make a speech with which they initially disagreed came to believe in the position they advocated following the speech. But there was more to this scenario: The students were given a monetary incentive to say what they did not believe. Would the magnitude of the incentive affect attitude change? Would speakers who received a large reward for making such a statement come to believe it more than students who received only a small token? Such a prediction may seem reasonable from what is known about the usual effects of rewards. Pigeons, rodents, and even humans have been shown to learn and act based on the magnitude of reward they receive for their behavior. However, dissonance theory makes a startling and nonobvious prediction—the *lower* the reward, the greater will be the attitude change. The magnitude of cognitive dissonance is increased by the magnitude and importance of the inconsistent cognitions a person holds, but it is *reduced* by the magnitude and importance of the consistent cognitions. Knowing that you made a speech that is contrary to your opinion is a cognition inconsistent with your opinion. On the other hand, receiving a bundle of money as a reward for the speech is a cognition quite consistent with giving the speech. The higher the reward is, the more important consistent cognition becomes. Therefore, making a counterattitudinal

speech for a large reward results in less overall dissonance than making the same speech for a small reward. This is what Festinger and Carlsmith found: The lower the reward was for making the speech, the greater the attitude change was in favor of tuition increase. The notion that people change their attitude following counterattitudinal behavior has become known as the psychology of *induced compliance.* The finding that attitude change increases as the magnitude of the inducement decreases is perhaps the most telling signature that cognitive dissonance has been aroused.

To Suffer Is to Love

Imagine that you have decided to join a sorority or fraternity at your college. You know that you have to undergo some form of pledging ritual to join. The pledging will not be fun and may be uncomfortable and embarrassing, but you decide to do it. Will the pledging affect your view of how attractive the sorority or fraternity is? The theory of cognitive dissonance makes another bold and nonobvious prediction: The greater is the suffering involved in the pledging, the more you will be motivated to like the club you are trying to enter. The knowledge that you chose to endure some degree of discomfort and unpleasantness is discrepant with your typical desire to have pleasant rather than difficult experiences. However, in this scenario, there is a reason that you engaged in a difficult, less-than-pleasant pledging ritual: You wanted to join the group. Wanting to be a member of the group is the cognition that makes your suffering seem to make sense. Any dissonance created by your decision to endure the pledging is explained or justified by how enjoyable it will be to participate in the group. The more uncomfortable the group's pledging procedure is, the more you need to find a reason for enduring it. And the justification can be made very compelling by distorting how good you think the group really is. Therefore, the prediction from cognitive dissonance theory is that the act of pledging will make the group seem attractive—and the more difficult or noxious the pledging is, the more attractive the group will seem. This phenomenon has been called *effort justification.*

Two social psychologists, Elliot Aronson and Judson Mills, tested the logic of effort justification in an experiment in which they had students undergo a screening test to join a group that was discussing the topic of sex. For some students, the screening was made avowedly difficult and embarrassing; for other students, the screening was less so. Although the group and the group members were precisely the same, those students who had the more embarrassing and difficult screening found the group discussion to be more interesting and the group members to be more attractive. By convincing themselves that the group was wonderful, the students were able to reduce the dissonance that had been aroused by their volunteering to engage in a difficult, embarrassing screening.

Volunteering to engage in difficult, effortful tasks happens frequently in our lives. Courses we choose to take may require a great deal of preparation, reading, and homework. Sports programs may require us to spend considerable amounts of time in training and in enduring the outbursts of demanding coaches. Yet, the very act of agreeing to participate in such effort has a positive consequence: It pushes us to like the activity for which we suffered.

Cognitive Dissonance and Social Life

Cognitive dissonance is ubiquitous. We like to think of ourselves as psychologically consistent human beings—that we act in ways that are consistent with our attitudes and that our attitudes are typically consistent with each other. We like to think that we make good choices and act in our own best interests. However, life often throws us curves that create inconsistency. The choices we make often lead us to dilemmas in which we need to relinquish some aspects of a rejected alternative that we would really like or to accept aspects of our chosen alternative that we would rather not have to accept. Sometimes, we find ourselves engaged in effortful activities that make little sense or find that we have to say or do things that do not quite fit with our private attitudes. These occasions cause us to experience dissonance—that uncomfortable state of tension that Festinger introduced in 1957. We do not live with the tension; rather, we take action to reduce it. And that is what is so interesting about cognitive dissonance. In our effort to reduce dissonance, we come to distort our choices to make them seem better, we come to like what we have suffered to attain, and we change our attitudes to fit our behaviors. Discovering and explaining the processes behind these occasions pervading our social life has been the hallmark of research on the theory of cognitive dissonance.

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COHESIVENESS, GROUP

Definition

Cohesiveness refers to the degree of unity or "we-ness" in a group. More formally, cohesiveness denotes the strength of all ties that link individuals to a group. These ties can be social or task oriented in nature. Specifically, a group that is tied together by mutual friendship, caring, or personal liking is displaying *social cohesiveness.* A group that is tied together by shared goals or responsibilities is displaying *task cohesiveness.* Social and task cohesiveness can occur at the same time, but they do not have to. For example, a group of friends may be very cohesive just because they enjoy spending time together, regardless of whether or not they share similar goals. Conversely, a hockey team may be very cohesive, without liking each other personally, because the players strongly pursue a common objective.

Consequences of Cohesiveness

A high degree of cohesiveness is a double-edged sword. Positive consequences include higher commitment to, and responsibility for, the group. Also, satisfaction with the group is higher within cohesive groups. Furthermore, there is a positive relationship between the degree of cohesiveness and the performance of a group. Although the direction of causality between performance and cohesiveness is still disputed (in fact, cohesiveness and performance seem to mutually influence one another), cohesive groups are likely to outperform noncohesive ones if the following two preconditions are met: First, the group has to be tied together by task (rather than social) cohesiveness. Second, the norms and standards in the group have to encourage excellence. Indeed, if the norm in a group encourages low performance, increasing cohesiveness will result in lower instead of higher performance. Thus, depending on the norms present in a group, the cohesiveness–performance link can be beneficial or detrimental. Aside from potentially worse performance, negative consequences of cohesiveness entail increased conformity and pressure toward unanimity. Cohesiveness may thus lead to avoidance of disagreement, groupthink, and hence bad decision making. Another negative consequence of particularly social cohesiveness may be maladaptive behavior if the composition of a group is changed. Indeed, in cases in which cohesiveness is high and mainly due to personal liking, changes in the group's structure may result in disengagement of group members.

Enhancing Group Cohesiveness

Social cohesiveness can be enhanced by increasing liking and attraction among group members. Liking can be enhanced, for example, by increasing similarity of group members (people like those who are similar to them or share similar experiences). Task cohesiveness can be enhanced by emphasizing similar goals and ensuring that the pursued goals are important to all members. Both social and task cohesiveness can be promoted by encouraging voluntary interaction among group members or by creating a unique and attractive identity of the group, for example, by introducing a common logo or uniform. Finally, cohesiveness is generally larger in small groups.

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COLLECTIVE SELF

Definition

The collective self consists of those aspects of the self that are based on memberships in social groups or categories. It refers to a perception of self as an interchangeable exemplar of some social category rather than a perception of self as a unique person. The collective self is based on impersonal bonds to others that are derived from the shared identification with a social group. Those bonds do not necessarily require close personal relationships between group members. The collective self-concept is composed of attributes that one shares with members of the group to which one belongs (the ingroup). That is, it includes those aspects of the self-concept that differentiate ingroup members from members of relevant outgroups. Commonalities with groups may be based on stable characteristics, such as race or gender, or on achieved states, such as occupation or party membership.

For example, a person may hold a self-definition of being an environmentalist. When this collective self-aspect becomes relevant, similarities with other environmentalists (e.g., a sense of responsibility for the environment) are emphasized, whereas unique characteristics of the person (e.g., being honest) move to the background. It is not essential for self-definition that the individual has close personal relationships with other environmentalists, as collective identity is based on the common identification with the group of environmentalists. The collective self-concept comprises characteristics that the person shares with other environmentalists and that differentiate environmentalists from other people (e.g., relying on public transportation vs. using cars, or voting behavior).

Background

Marilynn Brewer and Wendi Gardner suggested a theoretical framework that encompasses three levels of self-definition: personal self, relational self, and collective self. The collective self refers to the representation of self at the group level (e.g., "I am a student of psychology"). It corresponds to the concept of "social identity" as described in social identity theory and self-categorization theory. Recently the term *collective self* has been preferred to the term *social identity,* as all aspects of the self are socially influenced. The collective self can be distinguished from the personal self and the relational self. The *personal self* concerns the definition of self at the individual level (e.g., "I am smart"); it refers to characteristics of the self (e.g., traits or behavior) that one believes to be unique to the self. The *relational self* alludes to the interpersonal level; it is derived from relationships with significant others (e.g., "I am a daughter"). The term *collective self* corresponds to the *interdependent self* as defined by Hazel Markus and Shinobu Kitayama in their analysis of cultural differences between self-concepts in Japan and the United States. The relational self refers to people to whom one feels emotionally attached, such as close friends or family members. In contrast, the collective self may include people whom one has never met but with whom one shares a common attribute, such as occupation or gender.

Richard Ashmore, Kay Deaux, and Tracy McLaughlin-Volpe developed a framework which distinguishes elements of collective identity: self-categorization, evaluation, importance, attachment, social embeddedness, behavioral involvement, and content and meaning. *Self-categorization* refers to identifying the self as a member of a particular social group. It is the basis for the other dimensions of collective identity. *Social categorization* has been assumed to be an automatic process that occurs as soon as people have a basis for grouping individuals into categories. But often there are many categories that may be used in any given situation (e.g., "student," "woman," "Democrat"). Relevant goals in a situation are among the factors that determine the type of categorization occurring.

The dimension of evaluation represents the positive or negative attitude that a person has toward a social category. Accordingly, collective self-esteem is the extent to which individuals evaluate their social groups positively. Rija Luhtanen and Jennifer Crocker developed a collective self-esteem scale that comprises four subscales: (1) private collective self-esteem (i.e., the extent to which individuals feel positively about their social groups), (2) public collective self-esteem (i.e., the extent to which individuals believe that others evaluate their social groups positively), (3) membership esteem (i.e., the extent to which individuals believe

they are worthy members of their social groups), and (4) importance to identity (i.e., the extent to which individuals believe their social groups are an important part of their self-concept).

The framework includes further elements that cannot be addressed in detail here, for example, the importance of a particular group membership to a person's overall self-concept, or attachment, defined as a feeling of affective involvement and belonging to a group.

Importance of Topic

A variety of behaviors and conditions can be predicted from elements of collective identity. The collective self has been linked to individuals' reactions and behaviors toward other people, especially toward members of other groups. It plays an important role in group perception and behavior, for example, prejudice, intergroup stereotyping, and discrimination. According to social identity theory, individuals seek to achieve and maintain a positive social identity (i.e., collective self-esteem) by establishing favorable comparisons between their own groups and outgroups. To achieve this, people discriminate against or derogate outgroup members relative to ingroup members. It has been found that the mere act of categorizing oneself as a group member is sufficient to lead people to evaluate ingroup members more positively than others and to allocate more rewards to them than to members of other groups.

Elements of the collective self also predict outcomes at the individual level. For example, collective self-esteem is related to psychological well-being (e.g., higher satisfaction with life, lower depression, hopelessness, and burnout). Furthermore, there is evidence for relationships between ethnic and more specific, context-relevant identities and achievement.

Michela Schröder-Abé
Astrid Schütz

See also Independent Self-Construals; Interdependent Self-Construals; Self; Self-Categorization Theory; Self-Concept; Self-Esteem; Social Identity Theory

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COLLECTIVISTIC CULTURES

Definition

Social psychology researchers tend to think about cultures as shared meaning systems that provide the knowledge people need to function effectively in their social environment. To see the importance of shared meaning systems, imagine that you were in a different culture where you did not know the language or the customs. It would be quite difficult for you to function in such a culture, at least until you learned these things. It is only when you share knowledge with others that you can communicate and interact with them effectively. Because of this shared knowledge, people in a culture are likely to have some similar ways of thinking about the world, to perceive things in a similar way, to have similar values and attitudes, to want similar things, to have similar ways of interpreting events, and to perform similar behaviors. This does not mean that all people in a culture will be the same, but they are more likely to be similar to each other than to people from other cultures.

Keeping in mind what a culture is, now consider how to define *collectivistic cultures*. Usually, collectivistic cultures are contrasted with individualistic ones, but there is no single definition. Rather, there are several characteristics that people from collectivistic cultures tend to have in common. In general, people in collectivistic cultures tend to think of themselves as interdependent (as strongly valuing harmonious relations) with their groups such as families, coworkers, country, and others. They benefit from their group memberships, and in turn, they have a desire to make sure that they benefit their group members. Consequently, they are likely to give priority to group goals over their personal goals. In general, people in collectivistic cultures are more likely than people who are not in collectivistic cultures to think about their group memberships and to consider them when making decisions. Some examples of collectivistic cultures include

East Asians (e.g., Chinese, Japanese, and others) and Arabs (e.g., Egyptians, Syrians, and others).

Much evidence has accumulated showing that people in collectivistic cultures define their self-concepts (their concepts of who they are) relative to their group memberships. For example, when these people are asked to complete sentences beginning with "I am," they are more likely than other people to respond with group memberships such as "I am a member of my family," "I am a Chinese person," and others. People from collectivistic cultures are also more likely than other people to say that their group memberships play an important role in how they think about themselves.

Because people in collectivistic cultures are interdependent with each other, that is, they have influence over each other and are influenced by each other. In other words, people have power over each other, but others also have power over them. This reinforces the tendency to prioritize group goals over personal goals because failure to do so can result in punishments from the other members of the group, whereas the pursuit of group goals can result in approval. The power issue is clarified when one considers that wealthy people tend to be less collectivistic than other people, even in collectivistic cultures. This is because wealthy people, to a greater extent than those who are not wealthy, can buy what they want, relocate to another area, and pursue other relationships. In short, wealth can provide some (but not complete) protection against social sanctions and thereby reduce the need for collectivism.

There are several factors that can affect the degree of collectivism in a culture. One such factor is the homogeneity (sameness) of the group. The more similar people in a group are to each other, the easier it is for them to agree on the proper norms, and so they will tend toward collectivism.

A second factor is the degree to which people need each other to accomplish the task at hand. Suppose that the task at hand is to feed one's family. A person in a highly technological society may be able to make a good living as a computer programmer and rarely have to interact with other people. However, a person in an agricultural society—especially one in which the production of food is a group effort—must interact effectively with others. Such cultures will tend toward collectivism.

A third factor is that, in some cultures, people have more access to alternative groups than in other cultures. In a culture where access to alternative groups is restricted, one's group has a great deal of ability to reward or punish behavior, thereby increasing the tendency toward collectivism. In contrast, to the extent that there is access to other groups, the ability of any particular group to reward or punish behavior decreases, and so collectivism likewise decreases.

A fourth, and subtler factor, is the ease with which particular self-concepts can be brought into consciousness (this is often called *accessibility*). Much evidence demonstrates that people in a wide variety of cultures have both a private self-concept (where thoughts about their traits and behaviors are stored) and a collective self-concept (where thoughts about group memberships are stored), though these concepts may not be equally likely to be accessed. It is quite easy to perform experiments where one or the other of these self-concepts is made more accessible by an experimental manipulation. For example, the collective self-concept can be made more accessible by asking people to think about how they are similar to their family and friends. The result of making the collective self-concept more accessible is that people behave in a more collectivistic manner. Thus, if people in a culture are exposed to stimuli that increase the accessibility of their collective self-concepts, they will tend toward collectivistic behaviors.

A fifth factor involves personality. Some people tend to value group memberships more than others. If there are many such people in a particular area, the culture will tend toward collectivism. Similarly, some people are more susceptible to social pressure than are others, which again increases the tendency of the culture toward collectivism.

Religion is sixth factor that has been shown to be correlated with collectivism. As people become more religious, they conform more to the practices of their religious group and identify themselves more with that group. In a word, they become more collectivistic. But not all religions are the same in the extent to which they promote conformity to religious prescriptions. Also, some religions are more centralized than others (e.g., Roman Catholics are more centralized than Protestants), and more centralization of authority leads to more collectivism. In religions where people are encouraged to disagree (e.g., Reform Judaism), it is less likely that religion will increase collectivism.

In summary, collectivism is a complicated idea that can be affected by a variety of things and is correlated with many other variables. In addition, there is no single kind of collectivism; although many different

cultures are categorized as collectivistic, they differ from each other in their degree of collectivism as well as in many other ways. Despite these complications, the notion of collectivism has been widely used in social and cross-cultural psychology and is likely to remain so for a long time to come.

David Trafimow

See also Accessibility; Conformity; Cultural Differences; Culture; Independent Self-Construals; Interdependent Self-Construals

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COMMONS DILEMMA

See SOCIAL DILEMMAS

COMMUNAL RELATIONSHIPS

Definition

A communal relationship is one in which an individual assumes responsibility for the welfare of his or her partner. In these relationships, when the partner has a specific need, wants support in striving toward a goal, would enjoy being included in an activity, or simply could use the reassurance of care, the other partner strives to be responsive. Importantly, partners do so with no strings attached. Common examples of communal responsiveness are a mother providing lunch to her child, a person providing encouragement to a friend who is training to run in a marathon, or a person giving his or her romantic partner a compliment. In each case, the benefit enhances or maintains the welfare of the recipient, and the recipient incurs no debt.

Communal relationships vary in strength. In very strong communal relationships, one person assumes a great deal of responsibility for the other person and would do almost anything, unconditionally, to promote his or her welfare. Parents often have very strong communal relationships with their own children, putting their child's welfare above their own welfare and spending years providing emotional and tangible support. In very weak communal relationships, a person assumes just a small amount of responsibility for another's welfare; yet, within the bounds of that small sense of responsibility, the person is unconditionally responsive to the other person. For instance, most people are willing to tell even a stranger the time or give the stranger directions with no expectation of repayment. Most communal relationships, for instance those with friends, fall somewhere in between these extremes of very high and quite low communal strength.

People have implicit hierarchies of communal relationships ordered according to the degree of communal responsibility they feel for others. A person's entire set of hierarchically arranged communal relationships may be shaped like a triangle with a wide base representing the person's many weak communal relationships and a peak representing the person's few very strong ones. At the base are the many strangers and passing acquaintances for whom small courtesies may be provided without expecting a specific, precisely equal repayment. Higher in the hierarchy, and fewer in number, are relationships with colleagues and casual friends, higher yet relationships with closer friends and a variety of relatives. For many people, relationships with best friends, immediate family members, and romantic partners are near or at the top. The needs of those higher in the hierarchy take precedence over the needs of those lower in the hierarchy.

Although some communal relationships (e.g., that with one's own infant) may be universal and even dictated by biology or social dictates, others are voluntary. The exact nature of hierarchies will vary from person to person and, certainly, from culture to culture.

Communal relationships can and often are symmetrical, meaning that each person in the relationship feels the same degree of communal responsibility for the other. Friendships, sibling relationships, and romantic relationships often (but not always) exemplify symmetrical communal relationships. Other communal relationships are asymmetrical, with one member assuming more responsibility for the other than vice versa. Perhaps the clearest example of an

asymmetrical communal relationship is that which exists between a parent and a newborn infant. The parent typically assumes tremendous communal responsibility for the infant; the infant assumes no communal responsibility for the parent. As the child ages, the asymmetry typically diminishes and, in the parent's old age, may reverse.

Although it might seem that a communal relationship is necessarily an unselfish relationship, the basis for communal relationships can be selfish as well. It is the assumption of some degree of unconditional responsibility for the welfare of another person that is the marker of a communal relationship. However, one can assume such responsibility for unselfish or selfish reasons. For example, one may feel empathy for another when needs arise and assume unconditional responsibility for that person to alleviate their distress. This is a seemingly unselfish reason for communal responsiveness. However, one might assume communal responsibility for rather selfish reasons as well. For instance, one may be communally responsive to a grumpy elderly relative because one fears criticism by others if one does not do so. One may be unconditionally responsive to a peer because one hopes (but cannot require) that the peer will desire a symmetrical communal relationships (friendship) and will be similarly responsive to one's own needs if and when such needs arise. Such reasons are more selfish. It appears likely that there is an evolutionary, as well as a cultural, basis for the existence of communal relationships.

Communal relationships can be very short in duration, such as when one gives a stranger directions with no expectation of repayment, or very long term, as in a typical parent's relationship with his or her child. It is, however, undoubtedly the case that the strength of a communal relationship is positively correlated with the length (and expected length) of that relationship.

Establishing and maintaining strong communal relationships can be difficult. There is evidence that people who are high in self-esteem and high in trust of others are best able to sustain relationships that operate primarily on a communal basis.

Margaret Clark

See also Exchange Relationships; Intimacy

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Communal Sharing

See Relational Models Theory

Companionate Love

Definition

Companionate love refers to a variety of love that is durable, fairly slow to develop, and characterized by interdependence and feelings of affection, intimacy, and commitment. Companionate love is also known as affectionate love, friendship-based love, or attachment. Because it requires time to develop fully, this kind of love is often seen between very close friends or romantic partners who have been together for a long time.

Measurement

Researchers typically measure companionate love using self-report methods, which involve asking people to respond to questions about their feelings for a specific other person (e.g., a friend, dating partner, or spouse). People might simply rate their level of companionate love for the other person: "How much warm, caring, affectionate love do you feel for your partner?"

Alternately, people might report how much they experience of the various components of companionate love (affection, intimacy, commitment, etc.); in this case, the researcher would add up their responses and calculate a total love score.

Research

Research provides evidence that companionate love is primarily a positive experience for both men and women. For example, when people are asked to think about companionate love and identify its important features, they uniformly specify positive feelings like "trust," "caring," "respect," "tolerance," "loyalty," and "friendship." Similarly, research conducted with dating couples reveals that positive emotions are strongly associated with the amount of companionate love that the couples experience. Specifically, the greater the amount of companionate love that partners feel for each other, the more they report liking and trusting one another and the more satisfying they find their relationship.

Scientists also have found evidence that companionate love is strong and durable. Not only do companionate lovers report feeling extremely committed to each other and desirous of maintaining their relationships, but levels of companionate love tend to remain stable over time within dating couples. Companionate love may even grow stronger over time because it is based on intimacy processes (such as caring and attachment) that require time to develop fully. The ability to withstand—and perhaps grow stronger over—the passage of time is one feature that distinguishes companionate love from other, more fragile varieties of love, including passionate or romantic love.

Current Directions

Researchers have begun to explore the biochemistry of companionate love. Two peptide hormones have come under scrutiny—oxytocin and vasopressin. Because these hormones are associated with caregiving behavior in nonhuman mammals, some scientists have hypothesized that they are involved in the ability to form attachments and experience companionate love. As of yet, this supposition remains speculative.

Pamela C. Regan

See also Attachment Theory; Love

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COMPASSION

Definition

Compassion is the emotion one experiences when feeling concern for another's suffering and desiring to enhance that individual's welfare. It is different from empathy, which refers to the mirroring or understanding of another's response; from pity, which refers to feelings of concern for someone weaker than the self; and from agape, which refers to the love of humanity.

Analysis

Across numerous ethical and spiritual traditions, compassion is considered a cardinal virtue. During the age of enlightenment, philosophers argued that some force—compassion—bound people together in cooperative communities. Social psychologists have largely concerned themselves with a few questions concerning compassion. A first occurs within the altruism debate: Does compassion motivate altruistic behavior? A second question finds its relevance within the study of emotion: Is compassion an emotion? A third is within evolutionary theory: Why does compassion exist? How did it evolve? Answers to these three questions paint a fascinating picture of the most social of emotions—compassion.

The study of altruistic behavior has examined the panoply of motives guiding altruistic and charitable action. Several are self-serving, including the desire to reduce personal distress in response to another's suffering or the goal of receiving social rewards for being helpful. C. Daniel Batson has proposed that altruistic behavior can also be motivated by an other-oriented state called empathic concern, which closely resembles the definition of compassion. Does this state motivate altruistic behavior? Indeed it does.

Over the years, Batson has conducted several studies using the *easy escape paradigm.* In this paradigm, a participant witnesses another participant suffer (e.g., by receiving painful shocks) and is given the opportunity to help. As the experiment unfolds, two motives are pitted against one another: First the participant is led to feel compassion for the suffering individual but is also allowed to pursue the self-interested course of action by simply leaving the study (hence the easy escape name). If altruistic behavior is observed, one can infer that compassion produces altruistic actions. Indeed, several studies indicate that when in these

circumstances, people feeling compassion will forego the self-interested course of action and help, even though they must endure shocks and even when their altruistic acts will not be known by anyone. Compassion is a proximal motive of altruistic action.

What, then, are the properties of the emotion compassion? Guided by studies of emotion, which date back to Darwin (who argued that sympathy, or compassion, is the central moral emotion), researchers have compared compassion with related emotions like sadness, love, or distress. From these studies it is clear that unintended suffering is an elicitor of emotion. Compassion also produces a distinct orientation to others. When feeling compassion, people are more forgiving, they are less likely to punish perpetrators of immoral acts with severe sentences, and they are more likely to perceive similarities between themselves and disparate social groups, in particular those who are vulnerable and in need. In short, compassion amplifies the sense of common humanity.

Does compassion have a distinct expression and physiological signature? Several studies find that when feeling compassion, people show two facial muscle actions that produce the oblique eyebrows, but observers do not readily judge this display as expressive of compassion. Touch is a likely medium of the communication of compassion given its central role in affection, reward, and soothing. In several studies conducted in different countries, it has been found that individuals separated by a barrier and unable to see or hear each other can communicate compassion (and love and gratitude) reliably to one another with 1 to 2 second touches to the forearm.

And what of emotion-related physiology? One promising candidate is the effects of activation of the vagus nerve, which is controlled by the 10th cranial nerve. This nerve complex begins at the top of the spinal cord and influences facial muscle action, the larynx, respiration, heart rate, and activity in the liver, kidneys, and gall bladder. When active, the vagus nerve produces sensations of the chest opening up. Several studies suggest that vagal tone is associated with compassion. Film clips that portray harm elicit vagal tone response and helping behavior. Still slides of harm (e.g., of babies crying or children suffering from famine) and suffering do as well.

Finally, recent studies have compared the neural correlates of compassion with those of love. When people hear stories of others' suffering, they tend to show activation in parts of the frontal lobes that are associated with empathy (e.g., the orbitofrontal cortex). They also tend to show activation in the right hemisphere, which is a region of the brain involved in negative emotions like sadness. Taken together, these studies suggest that compassion is quite distinct from distress, sadness, and love. It is a fairly distinct emotion that motivates altruistic action. The question, from a broader perspective, then, is why did compassion evolve?

No species is more social than humans. Humans raise offspring; gather, store, and prepare food; sleep; create shelter; and defend themselves, socially. In the thousands of generations that humans evolved in hunter–gatherer groups of 50 to 100 individuals, they did so in relationships, most typically, in profoundly dependent bonds that required long-term commitment and frequent self-sacrifice. Human offspring are born prematurely and require years of devoted care. Studies of hunter–gatherers find that parents cooperate with kith and kin to raise offspring while meeting the other demands of gathering and preparing food. Food-sharing relationships require that in flush times individuals share so that in times of dire need they will be the recipients of others' generosity. Theorists of an evolutionary persuasion have begun to argue that the extraordinary sociality of humans, and humans' interdependence, set the stage for the emergence of compassion.

In more specific terms, evolutionary theorists have made two claims about compassion. The first claim is that compassion reduces the costs of helping and increases the benefits. Compassion overwhelms self-interest and prioritizes the needs of others. The second is that compassion is likely to flourish in relationships between cooperative (rather than competitive) individuals. By implication, compassion, or kindness or trustworthiness more generally, should be readily identified in the nonverbal comportment of others. These two claims help provide theoretical context for the literatures reviewed earlier on the relationship between compassion and helping, and the emotion-like properties of compassion. They also raise interesting questions that await empirical attention.

Dacher Keltner
Jennifer Goetz

See also Altruism; Empathy; Helping Behavior

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COMPLEMENTARITY, OF RELATIONSHIP PARTNERS

Definition

Do birds of a feather flock together? Do opposites attract? These questions have been examined extensively within the domain of attraction, but less emphasis has been placed on the similarity versus complementarity in ongoing relationships. *Complementarity* means that partners are different in ways that enable them to fit or work together well.

Many studies have supported the idea that we are initially attracted to those who are similar to us in personality, looks, and interests. The question then becomes whether this desire for the other to be like us would result in happier, more satisfying relationships in the longer term. The answer to this question appears to be "not always." While we do appear to prefer those with personality traits similar to ours, complementarity between partners' needs and roles within the relationship also predict satisfaction in relationships. Complementarity does not refer to opposites per se but characteristics, needs, or roles that partners hold that are different but work together to create a cohesive whole.

Take the issue of roles. If both you and your partner love to cook but refuse to clean (i.e., similarity in roles), your quality of living may be compromised until such time as one of you cannot take it anymore and cleans up. If the same partner is left to deal with the mess each time, this "giving in" may cause resentment to grow. With complementarity, however, you could each specialize in a unique role (e.g., if you enjoy cooking and your partner enjoys housecleaning, you have unique but complementary roles in the household, and everything gets done by the person who enjoys it more), or you could alternate roles over time (e.g., "I'll cook if you'll wash the dishes, then tomorrow we'll switch"). Research has shown that these kinds of complementarity increase satisfaction and lower conflict in both dating and marital relationships.

What evidence do we have that this complementarity actually exists in relationships? Individuals in both dating and marital relationships report outperforming their partners in areas that are important to their own self-concept (e.g., "Sports are important to me. I play better than my partner") and underperforming in areas that are not important to the self (e.g., "Sports are not important to me. I do not play as well as my partner"). These individuals also reported outperforming their partner in areas that did not matter to the partner and underperforming in areas that were relevant to the person they were involved with.

This suggests that while similarity appears to play a strong role in initial attraction generally and more specifically in terms of personality traits, complementarity of needs and roles also appear to play a strong role in relationship continuation and success in ongoing relationships.

Stacey L. Nairn

See also Roles and Role Theory; Similarity-Attraction Effect

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COMPLIANCE

Definition

Compliance refers to an overt, public action performed in accordance with a request from an external source. The request can be from another person(s) or from an object, such as an election billboard or marketing advertisement. Thus, compliance can occur in response to an explicit request, as in the former example, or an implicit request, as in the latter example. Regardless of the source of the request, if a person acts in line with the request, he or she is said to be complying with the request. Compliance does not refer to an inner state of acceptance of the behavior performed nor does it refer to an attitude change; rather, it simply refers to acting in accordance with the request. If a person acts in

accordance with a request that comes from an authority figure, however, the person is demonstrating *obedience.*

History and Modern Usage

In psychology, compliance is typically studied as a prosocial behavior or as a reaction to social influence. Originally, researchers began studying compliance in reaction to the events of World War II. They wondered how humans could follow orders that led to terrible crimes against humanity. Psychologists have studied both the external factors that influence people's levels of compliance, as well as the internal, psychological processes, that influence people's levels of compliance.

Researchers have sought to demonstrate the situations and circumstances under which people comply with others' requests. For example, we are more likely to comply with a request that comes from a person we are close to rather than a stranger. Researchers have also examined explicit and implicit techniques that increase a person's chances of gaining compliance from someone else. For example, door-to-door salespeople quite often try a technique where they first ask a person for a small favor, after which they will ask for larger favors. If salespeople gain compliance for the small favor, chances are people will comply for the larger, later request. This phenomenon was coined the *foot-in-the-door* technique.

Sometimes people are less likely to comply with explicit requests from other people (especially strangers). This can even lead to adverse effects, especially if it limits people's options or freedom. Infringing on people's choices or freedom can lead to people's engaging in the opposite behavior; this is termed *reactance.*

People will also comply to gain acceptance or approval from a group, especially if that group is similar to the person or one to which they want to belong. Compliance often serves the purpose of allowing people to get along, cooperate, as well as build and maintain relationships. Thus, compliance is generally a behavior for the good of society, but at times our willingness to comply can be misused to have us engage in behaviors that neither for the greater good of society nor in our best interests (such as purchasing things that we do not need).

Nicole L. Mead

See also Conformity; Door-in-the-Face Technique; Foot-in-the-Door Technique; Influence; Milgram's Obedience to Authority Studies

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CONFIRMATION BIAS

Definition

Confirmation bias refers to processing information by looking for, or interpreting, information that is consistent with one's existing beliefs. This biased approach to decision making is largely unintentional and often results in ignoring inconsistent information. Existing beliefs can include one's expectations in a given situation and predictions about a particular outcome. People are especially likely to process information to support their own beliefs when the issue is highly important or self-relevant.

Background and History

The confirmation bias is one example of how humans sometimes process information in an illogical, biased manner. Many factors of which people are unaware can influence information processing. Philosophers note that humans have difficulty processing information in a rational, unbiased manner once they have developed an opinion about the issue. Humans are better able to rationally process information, giving equal weight to multiple viewpoints, if they are emotionally distant from the issue.

One explanation for why humans are susceptible to the confirmation bias is that it is an efficient way to process information. Humans are bombarded with information in the social world and cannot possibly take the time to carefully process each piece of information to form an unbiased conclusion. Human decision making and information processing is often biased because people are limited to interpreting information from their own viewpoint. People need to process information quickly to protect themselves from harm. It is adaptive to rely on instinctive, automatic reflexes that keep humans out of harm's way.

Another reason people show the confirmation bias is to protect their self-esteem. People like to feel good about themselves, and discovering that a belief that they highly value is incorrect makes people feel bad about themselves. Therefore, people will seek information

that supports their existing beliefs. Another motive is accuracy. People want to feel that they are intelligent, and information that suggests one holds an inaccurate belief or made a poor decision suggests one is lacking intelligence.

Evidence

The confirmation bias is strong and widespread, occurring in several contexts. In the context of decision making, once an individual makes a decision, he or she will look for information that supports the decision. Information that conflicts with the decision may cause discomfort and is therefore ignored or given little consideration. People give special treatment to information that supports their personal beliefs. In studies examining the *my-side bias,* people were able to generate and remember more reasons supporting their side of a controversial issue than the opposing side. Only when a researcher directly asked people to generate arguments against their own beliefs were they able to do so. Often when people generate arguments against their beliefs, the arguments may be used selectively or even distorted or misremembered to ultimately support the existing belief. It is not that people are incapable of generating arguments that are counter to their beliefs; rather, people are not motivated to do so.

The confirmation bias also surfaces in people's tendency to look for positive instances. When seeking information to support their hypotheses or expectations, people tend to identify information that demonstrates a hypothesis to be true rather than look for information that the opposite view is false.

The confirmation bias also operates in impression formation. If people are told what to expect from a person they are about to meet, such as the person is warm, friendly, and outgoing, people will look for information that supports their expectations. When interacting with people whom perceivers think have certain personalities, the perceivers will ask questions of those people that are biased toward supporting the perceivers' beliefs. For example, if Maria expects her roommate to be friendly and outgoing, Maria may ask her if she likes to go to parties rather than if she often studies in the library.

Importance

The confirmation bias is important because it may lead people to hold strongly to false beliefs or to give more weight to information that supports their beliefs than is warranted by the evidence. People may be overconfident in their beliefs because they have accumulated evidence to support them, when in reality much evidence refuting their beliefs was overlooked or ignored, which, if considered, would lead to less confidence in one's beliefs. These factors may lead to risky decision making and lead people to overlook warning signs and other important information.

Implications

The confirmation bias has important implications in the real world, including in medicine, law, and interpersonal relationships. Research has shown that medical doctors are just as likely to have confirmation biases as everyone else. Doctors often have a preliminary hunch regarding the diagnosis of a medical condition early in the treatment process. This hunch often interferes with considering information that may indicate an alternative diagnosis is more likely. Another related outcome is how patients react to diagnoses. Patients are more likely to agree with a diagnosis that supports their preferred outcome than a diagnosis that goes against their preferred outcome. Both of these examples demonstrate that the confirmation bias has implications for individuals' health and well-being. In the context of law, judges and jurors often form an opinion about a defendant's guilt or innocence before all of the evidence is known. Once an opinion is formed, new information obtained during a trial is likely to be processed according to the confirmation bias, which may lead to unjust verdicts. In interpersonal relations, the confirmation bias can be problematic because it may lead to forming inaccurate and biased impressions of others. This may result in miscommunication and conflict in intergroup settings. In addition, by treating someone according to expectations, that someone may unintentionally change his or her behavior to conform to the expectations, thereby providing further support for the perceiver's confirmation bias.

Bettina J. Casad

See also Self-Fulfilling Prophecy; Self-Reference Effect; Self-Serving Bias

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CONFLICT RESOLUTION

Definition

Social conflict emerges when the aspirations, beliefs, or values held by one individual or group are frustrated by another individual or group. It emerges between parents and their children, between friends on a weekend outing, between colleagues at work, between groups from adjacent neighborhoods, or between rivaling teams within an organization. In fact, social conflict is part and parcel of any relationship and any social interaction between individuals or groups around the globe.

Conflict resolution refers to the process geared toward reaching an agreement in a dispute, debate, or any other form of conflict between two or more parties. It can take different forms: Participants may negotiate and attempt to solve their problems to mutual satisfaction, they may withdraw from the situation and avoid interacting with each other, they may fight and try to dominate their counterpart, or they may yield and give in to their adversary's position.

Conflict resolution is important because conflict can be very costly as well as very beneficial. Enduring hostility between parents damages their offspring's development, conflict in the workplace is estimated to absorb valuable time and energy, and ethnic conflict between groups or communities halts economic prosperity and may lead to famine, disease, and environmental disaster. But conflict can have positive consequences also: Adversaries may become more creative, and teams in organizations have been found to be more innovative when they have conflict. In addition, conflict can clear the air, clarify territorial boundaries, and increase mutual understanding. However, these positive outcomes emerge when conflict is relatively mild and managed in a constructive, businesslike manner. All too often and all too quickly, conflict escalates to exceedingly intense levels, and negative outcomes dominate—hence the importance of understanding and applying conflict resolution.

History and Background

The study of conflict and conflict resolution is broad and crosses disciplinary boundaries. Conflict resolution is studied in economics, law, business studies, sociology, psychology, communication sciences, and political sciences. It is part of the curriculum in biology, in history, and in theology. This multidisciplinary aspect makes it somewhat difficult to identify "the history" of conflict studies in social psychology. Nevertheless, three important developments serve as key sources of inspiration.

In 1954, social psychologist Muzafer Sherif and his colleagues published a study that later became known as the Robbers Cave experiment. At a Boys Scout of America camp held in Robbers Cave National Park (Oklahoma, United States), he allocated 22 normal, healthy boys unknown to each other into two subgroups. Over the course of several days, the two subgroups became increasingly hostile and competitive with one another. Apparently, simply dividing people into subgroups, in and of itself, induced competition and conflict. Furthermore, when the two subgroups needed each other—a delivery truck got stuck and only with the force of all the boys together was the truck pulled free—hostility reduced and more cooperative relationships between the two subgroups developed. Apparently, the presence of common goals reduced competitiveness between the two groups and facilitated conflict resolution. This insight formed the basis of ongoing research into intergroup relations and conflict resolution through the development of shared goals and social identity.

A second important source of inspiration formed the (changing) labor relations in the late 1950s and early 1960s of the past century. Employees organized themselves in unions, and unions used their increasing power to negotiate with management for better labor contracts. Among other things, the insight formed that (collective) negotiation helped resolving social conflict in creative ways so that all parties benefited more than they would have in a 50–50 compromise or in a victory-for-one solution. This discovery formed the foundation for contemporary research into *integrative negotiation.*

The third source of inspiration came from microeconomics and decision-making research. During the Cold War both the United States and the former Soviet Union built up an impressive arsenal of (nuclear) missiles, enough to fully destroy each other up to 60 times.

This immensely frightening and unbelievably expensive arms race triggered a host of important questions like "Should you attack before the other does?" "What happens if you unilaterally reduce the number of nuclear missiles?" "What is the most effective way of responding to the adversary's power-play?" and "How can violated trust be repaired and cooperation be maintained?"

To answer these questions, researchers designed laboratory games that simulated core aspects of the conflict-related choice dilemmas their nations were involved in. A famous example of such a game is the *Prisoner's Dilemma Game.* Within the hypothetical situation of an arms race issue, the game involves two players, A and B, who individually and independently can decide to make a noncooperate move (buy more nuclear missiles) or a cooperative move (destroy nuclear missiles and use the money to fight famine). If player A decides to buy nuclear missiles when player B decides to destroy missiles, player A gets the upper hand in the conflict and settles on a victory-for-one. If both decide to buy missiles, famine continues to exist and the conflict lingers on—this is better for both A and B than losing the conflict and therefore a relatively attractive outcome. Nevertheless, it is worse than if both decide to destroy missiles, in which case the conflict is resolved and famine effectively banned. Thus, what should one do—buy missiles, or destroy them? The answer depends in part on one's own values and in part on the (expected) behavior of one's counterpart. No single right answer is possible, however, and this intriguing dilemma has inspired over 1,000 studies looking at issues of trust, the cooperative history between the players, the number of decision rounds to be played, and so on.

Psychological Processes in Conflict Resolution

Motivation and Thought Processes

Thomas Schelling, an economist, and Morton Deutsch, a social psychologist, were the first to recognize that most conflict situations are "mixed-motive" interactions, because disputants simultaneously experience the motivation to cooperate and compete with each other. For example, someone may prefer an agreement that satisfies his or her interests over one that favors the adversary's interests (an incentive to compete), while also preferring any agreement over no agreement (an incentive to cooperate). Cooperative versus competitive motivation is part of a broader category of *social motives* that also includes fairness considerations and concern preferences for the way outcomes are distributed. In addition to these, disputants have *goals* and *aspirations*—preferences for a particular level of benefit to achieve (e.g., "I hope to get $10,000 for my used car") or the amount of losses to avoid. They also have *identity concerns*, seeking a particular image of self or of the group they represent and belong to, and they have *epistemic needs* to understand the conflict situation and their counterpart.

The motives underlying conflict resolution come hand in hand with roughly two cognitive tendencies, that is, ways of processing and searching for information. The first is *ego defensiveness.* Because individuals have a desire to develop and maintain a positive self-view, they quickly come to see themselves as benevolent and constructive and their counterparts as malevolent and competitive. When the positive self-view is threatened, people tend to become hostile and aggressive. Because social conflict inherently involves opposition and threat, disputants' self-views are threatened continuously, and escalating spirals of increasingly hostile exchange are the rule rather than the exception.

The second cognitive tendency is called *naive realism* and rooted in the fact that conflicts are taxing because information is incomplete and uncertain. A common strategy for people to reduce informational complexities is to act as *naive realists:* They assume that the world is as they perceive it; that other people view the world in that very same way; and that if their counterparts don't, it must reflect lack of information, lack of intelligence, or ulterior motives on their part.

In the past few years, social psychologists have started to integrate their work on motivation and cognitions. This integration shows that ego-defensiveness is less of an issue when disputants have cooperative motivation. Likewise, disputants with high epistemic motivation, who seek deep and accurate understanding, are less likely to fall prey to naive realism.

Moods and Emotions

Achieving desired goals in conflict elicits all kinds of emotions, like happiness, elation, pride, and satisfaction, but also perhaps negative mood states, like guilt and shame. Likewise, not achieving desired goals

or being blocked in pursuing these goals elicits anger and frustration, disappointment, disgust, and perhaps regret. When parties feel anger, fear, and disgust, they tend to become increasingly hostile and competitive, both in their thinking and in their behavior. When they experience guilt, regret, and shame, however, disputants become evasive and avoid interaction. Experiencing positive emotions like happiness and satisfaction makes disputants more conciliatory and, to some extent, more creative in resolving the conflict.

Emotions not only influence the thoughts and actions of the conflict party having them. Many emotions have a social function and communicate something to one's counterpart, thereby influencing the counterpart's thoughts and actions as well. For example, anger communicates both dissatisfaction with the situation and the desire for change. Although anger sometimes evokes anger ("Who do you think you are!?"), it may also lead one's counterpart to give in and to make concessions ("All right, relax, I see your point"). Or consider guilt and shame, which communicate that one has taken or received more than deserved. Indeed, disputants who see their counterpart to be guilty and ashamed stop making concessions and wait for the other to give in, to repair damage.

Strategies and Interaction Patterns

How motives, emotions, and cognitive tendencies conspire to influence conflict management has received a great deal of attention. In fact, it seems safe to say that this part of the conflict process is the most widely studied and best understood area in the conflict literature. Whereas an infinite number of conflict tactics and strategies may be conceived of, conflict research and theory tends to converge on the idea that parties to a conflict can (1) ask for *third party intervention* (i.e., ask a judge, an arbitrator, their manager, or fate to make a decision); (2) engage in *unilateral decision making* by trying to impose one's will on the other side (forcing), by accepting and incorporating the other's will (yielding), or by withdrawing from the situation or by remaining inactive (avoiding); or (3) engage in *joint decision making* (i.e., seek a compromise, engage in problem solving, try negotiation, ask a mediator for help). Sometimes, different conflict management strategies are used sequentially, for example, when mediation is followed by arbitration or when a hostile and competitive (forcing) approach is followed by a friendly and soft approach (problem solving, as in a good cop/ bad cop strategy).

Dual Concern Theory

Developed by Dean Pruitt and Jeffrey Rubin, *dual concern theory* focuses on when and why individuals engage in unilateral decision making (forcing, yielding, inaction) or joint decision making (problem solving, negotiation). The basic idea is that parties have high or low aspirations and, independently, a high or low concern for their counterpart's interests. Aspiration motivation is most often high. But it can be low, for example, when getting the desired share of the budget is unlikely given the way it is traditionally distributed. Concern for the other is high when realizing the other's interests is positively valued (e.g., one likes the other), instrumental (e.g., one needs one's counterpart in future interaction, for example at work), and feasible. Thus, concern for the other may be rooted in genuinely prosocial motives or in enlightened self-interest (i.e., by helping the other one serve one's own best interests).

When aspiration motivation is high and the concern for other is low, parties engage in *forcing,* that is, attempting to impose their goals upon the other party. When aspirations are low and concern for other is high, parties engage in *yielding*, giving in to their opponent's demands and desires. When both aspirations and concern for other is low, parties engage in *inaction* and are predicted to remain passive. When both aspirations and concern for other is high, parties collaborate and engage in *negotiation* and *problem solving.* Ample work has revealed that problem solving is associated with more integrative agreements, reduced probability of future conflict, and enhanced interpersonal liking.

Interaction Patterns

Dual concern theory is fairly static and does not deal with the way disputants respond to each other's behavior. Thus, how does Party B react when Party A remains passive and avoids interaction? Or what does Party A do when Party B suggests they sit down and find a mutually satisfying solution? Social psychologists have uncovered two principal interaction tendencies. The most powerful tendency is to reciprocate one's counterpart's behavior. When one takes a cooperative stance and wants to negotiate a mutually acceptable solution, the counterpart most likely reciprocates with cooperative behavior. This tendency is even stronger when one performs competitive, hostile behavior like forcing. This is because people may be

tempted to exploit the other's cooperation and thus respond to the other's cooperative behavior with competitiveness. However, even when one is not greedy and basically inclined to cooperate, the desire not to be exploited requires one to match the other's competitiveness.

Sometimes disputants perform complementary reactions. Powerful individuals, or those with high status, who engage in forcing trigger yielding rather than forcing in their powerless counterparts. In negotiation, making lots of concessions may lead one's counterpart to stop making concessions and to wait for you to come down even further (a strategy called *mismatching*). Finally, conflict interaction may take *a demand–withdrawal pattern.* This happens when one party desires change, whereas the counterpart desires to maintain the status quo (e.g., a traditional husband who refuses to do household chores facing his liberated wife who wants him to do an equal share). In such situations, Party A (the wife) demands and Party B (the husband) withdraws, so that the A demands with greater persistence and perseverance, whereupon B withdraws even further, and so on. Alternative forms of conflict resolution exist and clearly would serve them well.

A Note on Generality

Whereas much of the previous discussion applies to interpersonal as well as intergroup conflicts, and applies as much to marital as to workplace conflicts, caution is needed when attempting to generalize across cultures. Growing evidence indicates that important differences exist between individualistic cultures, found in Western societies, and collectivist cultures, found in Latin America and Southeast Asia. For example, disputants rely on forms of mediation and third-party decision making much more in collectivist cultures than in individualist cultures. Also, groups as a psychological unit are more important in collectivist cultures, and this has important consequences for the ways people think about conflicts and for their strategic choices. Understanding cross-cultural differences in conflict resolution and its underlying psychological processes is one of the key challenges for future researchers, as globalization continues and cross-cultural encounters—and conflicts—will become more frequent.

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See also Emotion; Prisoner's Dilemma; Robbers Cave Experiment

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CONFORMITY

President John F. Kennedy and several of his key advisers met in March 1961 to discuss a Central Intelligence Agency plan for the invasion of Cuba. The consensus of the group was to proceed with the invasion. At least one adviser, Arthur Schleshinger, had serious doubts about the wisdom of the plan, but he did not argue strongly for his position.

In a laboratory experiment, Solomon Asch brought together groups of college students and told them they would be participating in a study on visual perception. Their task was to match the length of a standard line against three comparison lines. This was easy to do, as only one of the comparison lines was the same length as the standard. Each group actually contained only one real participant. The other group members were confederates who had been instructed to give unanimously incorrect responses on most of the trials. The real participant responded next-to-last and hence was exposed to group pressure when the other members chose an incorrect comparison line. Asch also included a control condition in which participants made judgments privately, without any group pressure. He found that participants exposed to group pressure agreed with the erroneous majority approximately 33% of the time, whereas control participants made errors less than 1% of the time.

Both Schlesinger and the participants in Asch's experiment found themselves opposed by a unanimous group of peers. They were placed in a conflict between saying what they really believed and agreeing with the other members of the group. They resolved this conflict by conforming to the group.

Definition

Conformity occurs when a person changes his or her behavior or attitude to make it more similar to the behavior or attitude of a group. It is important to note that conformity can occur without the group desiring to exert influence on, or monitor, the individual, as long as the person knows the group position and wants to agree with it. In fact, it is not even necessary that the group be aware of the individual's existence. (For these reasons, the term *group pressure* is used to mean only that an individual perceives that a group disagrees with his or her position).

Types of Conformity and Nonconformity

Defining conformity as *change* toward a group is useful, because it implies that group influence has indeed occurred. That is, we would probably feel sure that a person was influenced by a group if he or she initially disagreed with the group and then shifted toward it. This would be particularly true if other people who held the same initial position, but who were not exposed to group pressure, did not move toward the group position. In contrast, if we knew only that an individual currently agrees with a group, we would not be sure that group influence was the reason. The individual might have independently arrived at the group's position without knowing what group members thought or desiring to be similar to them. Clearly, we would not want to define the widespread practice of wearing coats in winter as conformity, if, as seems more likely, people independently decide to wear coats to keep warm.

Although it is generally a good idea to define conformity in terms of change, this criterion can cause problems in certain cases. For example, a person might independently agree with a group position, be tempted to abandon this position, but maintain it because of group pressure. Here, conformity would be manifested by *refusal to change*. The change criterion is also problematical when people show *delayed conformity* (moving toward a group position long after group pressure

occurs). In this case, it is hard to detect the relationship between group pressure and response to this pressure, even though the relationship exists.

Another important issue in defining conformity concerns the distinction between public and private agreement. *Public agreement (*or *compliance*) refers to the individual's behavioral change toward the group position. For example, if the individual initially opposed abortion rights, learned that the group advocated abortion rights, and publicly went along with the group, the person would be showing compliance. *Private agreement (*or *acceptance*) refers to the individual's attitudinal change toward the group's position. For example, if the person's private opinion toward abortion rights became more favorable after learning the group's position, the person would be showing acceptance.

The distinction between public and private agreement is important, because it has implications for how a person will behave if the group is not present to monitor his or her behavior. Consider the case of an individual who conforms to the group at the public level but disagrees with its position at the private level. Because this response pattern is often produced by the desire for group acceptance, we would not expect the person to continue endorsing the group's position if it were not present to monitor his or her behavior. In contrast, consider the case of an individual who conforms at both the public and private levels. This person, who apparently really believes in the position he or she is endorsing, would be expected to continue endorsing this position even if the group were not present.

Just as there are different forms of conformity, so there are different forms of *nonconformity*. Two of the most important are independence and anticonformity. *Independence* occurs when a person perceives group pressure but does not respond to it at either the public or the private level. Thus, an independent person "stands fast" when faced with disagreement, moving neither toward nor away from the group's position. In contrast, *anticonformity* occurs when a person perceives group pressure and responds by moving away from it (at the public level, the private level, or both). Thus, an anticonformer becomes more extreme in his or her initial position when faced with disagreement. In a real sense, then, the anticonformer is just as susceptible to group pressure as is the conformer. The only difference is that the anticonformer moves away from the group, whereas the conformer moves toward it.

Motives Underlying Conformity

Why do people succumb to group pressure? Two major reasons have been proposed. The first is based on people's desire to hold correct beliefs. Certain beliefs can be verified by comparing them against an objective physical standard. For example, we can verify our belief that water boils at 100 degrees Celsius by placing a thermometer in a pan of water, heating the water, and reading the thermometer when the water begins to boil. In contrast, other beliefs (e.g., the United States should reduce its nuclear stockpile) cannot be verified against objective physical standards. To determine the validity of such beliefs, we must compare our beliefs with those of other people. If others agree with us, we gain confidence in the validity of our beliefs; if others disagree, we lose confidence. Because disagreement frustrates our desire to verify our beliefs, we are motivated to eliminate it whenever it occurs. One way to do so is to change our position toward the others' position, that is, to conform.

This analysis suggests that when people are unsure about the validity of their beliefs and think the group is more likely to be correct than they are, they will conform to reduce uncertainty. In so doing, they will exhibit *informational influence,* which is generally assumed to produce private acceptance as well as public compliance. Informational influence is more common under some conditions than others. For example, people show more conformity when they are working on a difficult or ambiguous task, when they have doubts about their task competence, and when they think other group members are highly competent on the task. In such cases, it is not surprising that people feel dependent on others to validate their beliefs and conform as a result.

A second goal underlying conformity is the desire to be accepted by other group members. When people want to be liked and believe that other members will respond favorably to conformity (and unfavorably to nonconformity), they will conform to win approval. In so doing, they will exhibit *normative influence,* which is generally assumed to produce public compliance but not private acceptance. Consistent with this idea, evidence indicates that people who deviate from group consensus generally anticipate rejection from other group members. And they are often right. Group members do indeed dislike and reject people who refuse to conform. Not all deviates elicit the same amount of hostility, however. The amount of such hostility depends on several factors, including the extremity and content of the deviate's position, the reasons that presumably underlie the deviate's behavior, the deviate's status, and group norms concerning how deviates should be treated.

Like informational influence, normative influence is more common under some conditions than others. For example, conformity is generally higher when group members are working for a common goal than when they are working for individual goals. This presumably occurs because people working for a common goal fear that deviance on their part will be seen as a threat to the entire group and hence will be severely punished. In contrast, people working for individual goals are less likely to assume that other members will be angered by (and hence punish) their deviance. It should be noted, however, that if members of common goal groups believe that conformity will hurt their group's chances of reaching its goal, they conform very little.

A second factor that increases normative influence is surveillance by other group members. Because others can only deliver rewards and punishments based on one's behavior if they observe this behavior, people ought to be more concerned about others' reactions (and hence more likely to show normative influence) when their behavior is public rather than private. Consistent with this reasoning, people conform more when their responses are known to other group members than when they are not known.

Reducing Conformity: The Role of Social Support

Asch found that he could dramatically reduce conformity (i.e., increase independence) in his experimental situation with a simple change in procedure—namely, by having a single confederate, who answered before the naive participant, dissent from the erroneous majority by giving correct responses. The presence of this *social supporter* reduced the total number of yielding responses from 33% to 6%. Additional research by Asch indicated that participants were far more independent when they were opposed by an eight-person majority and had a supporter than when they were opposed by a three-person majority and did not have a supporter. Later work by others showed that social support reduces conformity for many different kinds of people, including male and female adults and normal and mentally retarded children. Moreover, a social

supporter's ability to reduce conformity to group pressure continues even after the person leaves the situation, as long as participants judge the same type of stimulus after the supporter leaves and this person does not explicitly repudiate his or her dissenting position.

Why are social supporters so effective in conferring resistance to group pressure? The answer seems to be that they reduce the likelihood of informational and/or normative influence. Regarding informational influence, social supporters can lower participants' dependence on the group for validating their beliefs. Thus, a supporter who is allegedly competent on the group task is more effective in reducing conformity than is a supporter who is allegedly incompetent. This presumably occurs because the competent supporter provides more credible support for the participant's position. Regarding normative influence, social supporters can lower participants' fear that they will be punished for deviance. As noted previously, people who dissent from group consensus alone (i.e., without a supporter) expect to be rejected. This fear is reduced, however, by the presence of a supporter who publicly agrees with their position. Fear of retaliation may decline because participants believe that the supporter will absorb some of the hostility that would otherwise be directed solely at them. A caveat is in order, however. If participants believe that group members are hostile to the supporter (e.g., because they are prejudiced against members of his or her race), they may be reluctant to "accept" his or her support and may continue to conform at a high level. This presumably occurs because participants expect that an alliance with a stigmatized supporter will elicit more, rather than less, punishment from the group.

Individual Differences: The Role of Culture

This discussion so far has implicitly assumed that a given group pressure situation has roughly the same impact on everyone who encounters the situation. That is, it has assumed that people who differ on such dimensions as age, race, sex, and cultural background respond similarly when facing group pressure. In fact, this is not the case, and individual differences can sometimes have powerful effects on the amount and type of conformity that people exhibit. To illustrate these effects, let's consider how people's cultural background affects their responses to group pressure.

People who grow up in different cultures have different socialization experiences, which may influence how they respond to group pressure. Researchers interested in the impact of culture on behavior often distinguish between two types of cultures: those that stress individualism and those that stress collectivism. Individualistic cultures emphasize independence, autonomy, and self-reliance. Collectivistic cultures emphasize interdependence, cooperation, and social harmony. In regard to the impact of culture on conformity, evidence indicates that people in collectivistic cultures conform more on Asch's line judgment task than do people in individualistic cultures. This presumably occurs because people in collectivistic cultures place more emphasis on joint goals and are more concerned and affected by how others view their behavior than are people in individualistic cultures.

Conformity: Bad or Good?

The consequences of conforming to group pressure are worth considering, in light of the common belief that conformity is invariably harmful. In fact, however, conformity can have positive as well as negative consequences for the individual and the group.

From the perspective of the individual, conformity is often a rational and adaptive response. A person who desires to respond accurately to a complex and changing environment may be wise to rely on the judgments of others, particularly when they are more knowledgeable about the issue in question. Similarly, a person who desires to be liked and accepted (surely not an unusual goal for most people) will often find that conformity is a useful tactic for gaining acceptance.

Of course, conformity can have negative consequences for the individual as well. In some circumstances, the individual is more likely to be correct by maintaining his or her position than by going along with the group. Moreover, even though conformers are generally liked better than deviates, conformers may be rejected if they are viewed as slavishly agreeing to gain acceptance, and deviates may be respected for their courage in dissenting from group consensus. Conformity may also be maladaptive if the individual wishes to differentiate him- or herself from others to feel unique. Finally, a person who succumbs to group pressure may come to believe that he or she is weak and spineless, which in turn may reduce the person's self-esteem.

Not only from the individual's but also from the group's standpoint, conformity can have both advantages and disadvantages. All groups develop norms, or rules of proper behavior. Although the content of these norms varies across groups, no group can tolerate routine violation of its norms. Conformity to at least basic norms is essential if group members are to interact in a predictable manner and if the group is to survive and attain its goals. As in the case of the individual, however, conformity is not always advantageous for the group. Sometimes the norms that a group embraces do not change even though the circumstances that originally produced the norms have changed. In such cases, continued conformity can be harmful to the group, reducing its ability to attain its goals and even threatening its existence. In circumstances such as these, the group is better served by deviance directed toward satisfying its real needs than by conformity to outdated norms. Consistent with this reasoning, groups sometimes recognize the utility of deviance and reward "innovators," who seem motivated to help the group and who facilitate the attainment of group goals.

As this discussion suggests, the question of whether conformity is bad or good is complex. The answer depends on knowledge of many specific factors that may vary from situation to situation, as well as value judgments about the relative importance of conflicting and often equally valid goals. Research on conformity is not sufficient by itself to resolve value questions. Nevertheless, such research provides information that helps us to pose these questions in an intelligent manner.

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See also Brainwashing; Bystander Effect; Collectivistic Cultures; Compliance; Deindividuation; Group Cohesiveness; Group Decision Making; Groups, Characteristics of; Informational Influence; Intergroup Relations; Leadership; Optimal Distinctiveness Theory; Power; Roles and Role Theory; Social Dominance Orientation

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CONSCIOUSNESS

Definition

Consciousness refers to the subjective experience of oneself and one's environment. This experience includes the awareness of one's feelings and emotions and the awareness of, and perceived control over, one's thoughts and behaviors. Conscious processes stand in contrast to subconscious (or nonconscious) processes, which occur outside of awareness and without intentional control.

Background and History

Consciousness is the familiar lens through which humans view their day-to-day worlds, yet no concept has proven more difficult for people to explain or understand. How do thoughts arise? How does subjective experience relate to, or come out of, physical processes in the brain? Such questions are often referred to as the hard problem of consciousness. It is these questions that challenged thinkers like René Descartes many centuries ago (he suggested that the mind is of a nonphysical substance separate from the brain), and it is these same issues that continue to puzzle countless scientists and philosophers in the present day. In contrast, psychologists and other academics have been slightly more successful in addressing the so-called easy problem of consciousness, which refers to questions of how cognitive processes influence behavior and how people react to their subjective experiences. With regard to consciousness, these are the questions that social psychologists are most concerned with today.

Early ideas about the easy problem of consciousness were somewhat scattered in the field of psychology as not all psychologists found conscious processes to be an important phenomenon. Sigmund Freud was famous for addressing the easy problem of consciousness by proposing the conscious ego and superego as functioning separately from the unconscious id, which he described as a reservoir of instincts and desires. However, despite the early emphasis by Freud and others like him on the interaction between conscious and unconscious sections of the mind, a full understanding of conscious processes was delayed by scientists like B. F. Skinner, who emphasized the utilization of observable behavior in the study of psychology. For decades, psychology was dominated by a view of the mind as a black box that receives input and exhibits output but whose contents are irrelevant to scientific study.

Debating the Utility of Consciousness

When social psychologists started to focus more and more on thought processes in the latter decades of the 20th century, many of their surprising findings pointed to a conscious system rife with flaws and inaccuracies. Researchers demonstrated that people are unable through introspection to accurately describe the causation behind their judgments, decisions, and behaviors. In addition, people often misattribute the driving forces behind their current emotions, and in some cases, they mislabel their emotions altogether. Recent research on consciousness has demonstrated that conscious thought can actually be a hindrance to decision-making processes, and furthermore, people have been found to misperceive whether their actions did or did not occur under their conscious control. Together, these results paint consciousness as a poor tool for doing the one thing that everyday experience would suggest it does well, which is provide an individual with the awareness of one's thoughts, feelings, and behaviors. In response to these findings, many psychologists have questioned exactly what function consciousness serves.

Research on automatic behaviors has added to the confusion over the utility of consciousness. Social psychologists continue to accrue evidence that most human behaviors can be explained by automatic, nonconscious processes. Social psychologists have shown that people move, process information, and even engage in complex, goal-driven behaviors in automatic ways independent of conscious thought or conscious awareness. Such findings have caused many of today's thinkers to propose that consciousness may in fact be a functionless side effect of other processes in the brain.

Despite the flaws inherent to conscious processes, consciousness does play an important role in various lines of research in social psychology. Many researchers study the use of conscious control in overriding automatic thoughts, impulses, and behaviors. This work has led to a better understanding of self-regulatory processes in which impulsive desires can be suppressed in favor of delayed rewards and long-term goals. Similarly, conscious control has also been shown to allow for more desirable interpersonal behaviors as in the case of stereotype suppression. Stereotypes of others have been found to arise quite automatically in the brain when people encounter individuals of particular groups. However, these stereotypes can be consciously overridden in favor of more accurate, more acceptable, and less stereotypic types of responding. In addition, conscious processes are often credited with allowing humans the unique ability to integrate different types of information, think symbolically, and use logical reasoning. Thus, the research supporting the utility of consciousness is considerable, and trends suggest that it will continue to grow. Still, exactly what consciousness is or isn't useful for is a very much debated topic in social psychology today.

Dual Processes

An understanding of conscious processes has benefited from the commonly held view of the mind as containing two primary components, an idea referred to as the *duplex mind*. This idea holds that one of the mind's components, the automatic system, is marked by fast, efficient, and uncontrolled processing that typically occurs outside of awareness. The second component, the conscious system, is marked by slow, effortful, rule-based processing that typically occupies the contents of awareness. Dual process models of social psychological phenomena take into account how the two components of the duplex mind interact to create thoughts and behavior. These models generally describe the automatic system as doing the bulk of the work, processing large amounts of information, and allowing for quick, automatic, and habitual responding. The conscious system monitors the output of the automatic system, integrates important bits of information, and overrides or changes the output of the automatic system when necessary. The automatic system is what allows a person to drive home while talking on the phone or thinking about other plans; the

conscious system is what kicks in when the driver has to pull over for an ambulance or break for an unexpected pedestrian.

E. J. Masicampo

See also Controlled Processes; Dual Process Theories; Ego Depletion; Executive Function of Self

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CONSENSUS, IN ATTRIBUTION THEORY

See KELLEY'S COVARIATION MODEL

CONSISTENCY, IN ATTRIBUTIONS

See KELLEY'S COVARIATION MODEL

CONSTRUAL LEVEL THEORY

See TEMPORAL CONSTRUAL THEORY

CONSUMER BEHAVIOR

The general study of factors associated with the acquisition, use, and disposal of goods and services is called *consumer behavior*. Decisions regarding consumption and the social and environmental issues associated with consumption are common aspects of humans' daily lives. Consider the last 48 hours of your life. If you are a typical U.S. citizen, you will have been exposed to at least 3,000 marketing efforts. You may have visited a wide array of physical retail locations in addition to having visited Internet-based retailers and unique auction and exchange sites. You may have posted information about a movie or a book you recently experienced or sought advice from other consumers about a future purchase.

The formal study of consumer behavior began shortly after World War II when businesses discovered that theories and research methods of the behavioral sciences could be used to develop products and services desired by individuals. The theories and methods are also used to help divide populations of consumers into segments that desire different types of products and prefer different types of media. Although the formal study of consumer behavior is linked to post–WWII changes in the economy, interest in understanding factors that influence the attractiveness of various choice options and ways of communicating information about products and services are perhaps as old as human civilization.

Persons identifying themselves as consumer behavior researchers are employed by corporations, government agencies, and various academic departments in universities. Most have completed significant coursework in social–behavioral sciences such as psychology, sociology, anthropology, and economics. Some researchers focus on predicting trends in purchase behavior in the short and long term, whereas others may be interested in diverse issues, such as the interpersonal aspects of purchase decisions, the role of brands in self-identity and goal attainment, how advertising can serve to create or maintain stereotypes of people, and so forth. One group of researchers may be interested in increasing the effectiveness of marketing communication, whereas another group might focus on ways to educate consumers to resist the influence of commercial communications. Ph.D. degrees are required for the academic positions, and specialized or M.B.A., M.S., or M.A. degrees are typical backgrounds for corporate research positions.

Major outlets for consumer behavior research are the *Journal of Consumer Research* and the *Journal of Consumer Psychology.* Journals in psychology, sociology, communication, marketing, and human ecology also include articles relevant to consumer behavior. Academic courses in consumer behavior are often available in schools of business, departments of human ecology, and colleges of communication.

Major organizations and academic conferences focusing on consumer behavior research issues include

the Society for Consumer Psychology, the Association for Consumer Research, the American Academy of Advertising, the American Marketing Association, and the Society for Personality and Social Psychology.

All social science research methods are employed in the study of consumer behavior, but it is fair to say that laboratory-based experimental research is the most common method in the published academic studies. Overall, the discipline of consumer behavior rests at the interface of basic and applied research issues. Some studies show that basic theoretical propositions from psychology and other disciplines can be used to understand and predict the behavior of individuals in consumption situations in which other studies serve to challenge the boundaries of understanding from extant theories by examining behavior in situations different from those in the basic research.

Just like many areas, consumer behavior research can be viewed as a fundamental topic worthy of study for a variety of reasons. The results and insights from such research efforts can be employed to increase the efficiency of marketing communication and product development efforts. The same insights can also be used to increase the efficiency and effectiveness of communication efforts and programs designed to reduce prejudice, increase the likelihood of healthy lifestyle choices, reduce energy consumption, and protect the environment. Ever-changing political, business, social, and environmental climates will provide the basis for the relevance and excitement of studying the behavior of humans as consumers.

Curtis Haugtvedt

See also Behavioral Economics; Decision Making; Research Methods

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CONTACT HYPOTHESIS

Definition

The contact hypothesis lies at the center of social psychological research on prejudice reduction. The effort to understand if contact between groups would facilitate intergroup relations was triggered after World War II by the human relations movement. In its simplest form, the contact hypothesis proposes that contact between individuals of different groups will improve relations between them. Over the years since the introduction of the contact hypothesis by Gordon Allport, a long list of optimal conditions to yield improved relations has been forwarded. However, most of the empirical findings from studies focusing on the contact hypothesis suggest that the optimal conditions can be narrowed down to four essential factors.

Essential Conditions of the Contact Hypothesis

One essential factor in order for contact to facilitate harmonious intergroup relations is that the different groups must be of equal status within the situation. Oftentimes prejudiced beliefs consist of stereotypes that outgroup members are inferior to ingroup members in their ability to perform different tasks. For example, Whites believe that Blacks are less intelligent and thus are unable to perform well on academic tasks. If contact between Whites and Blacks involves an unequal-status situation, with the White person in the dominant role and the Black person in the subordinate role, then the existing prejudiced beliefs are likely to be reinforced. By contrast, if both Whites and Blacks are treated as equals, then individuals are seen outside of their normal status group, allowing for prejudiced beliefs to be disconfirmed. A second essential factor is that the contact must have acquaintance potential, suggesting that the contact should occur frequently and be close enough to permit the development of meaningful relationships between individuals of the different groups. A third essential factor of the contact hypothesis is that there must be active attainment of a common goal that involves intergroup cooperation without competition. That is, individuals of the different groups must have a superordinate goal that cannot be achieved without the full cooperation of both groups. Finally, the fourth essential condition necessary for contact to be successful is that there must be explicit, unambiguous support for intergroup contact from authorities. The support fosters social norms of tolerance and acceptance of cultural diversity.

Thus, according to the contact hypothesis, it is not enough to merely bring people of different groups together. In fact, research shows that such an approach

may actually worsen the tension between the groups. It is contact that involves the essential four conditions (described in the previous paragraph) that will facilitate positive intergroup relations.

Empirical Evidence

The contact hypothesis has sparked extensive research for over 50 years. Empirical support that contact under optimal conditions reduces prejudice and fosters intergroup harmony has been found using various methodologies, including laboratory studies, field studies, and survey studies. An extensive analysis of studies conducted on the contact hypothesis revealed that 94% of more than 500 studies found that increased intergroup contact predicted decreased prejudice. These studies focused on contact between various social groups, including contact between Whites and racial/ethnic minorities, heterosexual and gays/lesbians, non–mentally ill and mentally ill individuals, and younger adults and elderly individuals.

Applications of the Contact Hypothesis

Increasing contact between members of different groups has been the basis of many policy decisions advocating racial integration in contexts such as schools, housing, workplaces, and the military. In addition, the contact hypothesis has been used to create programs to improve race relations.

School Integration

The contact hypothesis influenced the 1954 U.S. Supreme Court's (*Brown v. Board of Education*) decision to desegregate schools. The contact hypothesis was used to show that desegregation would increase the self-esteem of racial minorities and decrease the prejudice of Whites. Unfortunately, studies of the effects of school desegregation have not always produced encouraging findings. Some studies conducted during and immediately following the court's decision showed that desegregation actually increased Whites' prejudice toward Blacks and had little effect on the self-esteem of Black children. Several reasons for these findings is that interracial contact in desegregated schools was not always equal nor was it implemented with full social support, two essential conditions for improving intergroup relations.

In addition to helping integrate American's education system, the contact hypothesis was used in the 2003 U.S. Supreme Court's decision regarding the use of race as a criterion in college admission. The research presented in this case, which was based on the contact hypothesis, suggested that interracial contact on college campuses fosters tolerance and is intellectually stimulating.

Cooperative Learning

The contact hypothesis has been used in creating cooperative learning programs to improve intergroup relations. The most famous type of cooperative learning program is referred to as the jigsaw classroom method. The jigsaw classroom refers to a technique that creates a classroom atmosphere in which students of different racial and ethnic groups are placed in pursuit of a common goal. Specifically, students are placed in diverse six-person learning groups. The lesson is divided into six segments, and each student is assigned one segment of the lesson. In essence, each student holds, so to speak, one piece of the jigsaw. To complete the entire lesson, the students must rely on the knowledge of the other individuals in their group, thereby facilitating the interdependence that is needed to improve intergroup relations. In the jigsaw classroom, students are working cooperatively toward a common goal in a context where there is implicit institutional support given by the teacher. Students in jigsaw classrooms, compared to those in traditional classrooms, show decreased prejudice and stereotyping, and minority students show an increase in self-esteem. Moreover, students in jigsaw classrooms show a genuine display of integration even outside of the classroom, such as on the playground, by their willingness to interact with members outside of their racial and ethnic group.

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Jennifer A. Richeson

See also Confirmation Bias; Jigsaw Classroom; Prejudice

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CONTENT ANALYSIS

Definition

Content analysis involves the systematic coding of information in archival records. It is a research tool used to determine the presence of certain words or concepts within a set of texts. The process of content analysis involves first selecting the texts from which the information will be gathered and then deriving the coding categories that will be used. The coding categories must be objectively defined to ensure reliability and consistency across various texts and different coders. Content analysis is most often used in exploratory and descriptive research.

Background

Historically, content analysis was a time-consuming process. Analysis was done manually, or slow mainframe computers were used to analyze punch cards containing data punched in by human coders. Single studies could employ thousands of these cards. Human error and time constraints made this method impractical for large texts. Due to technological advances and increased use of the Internet, researchers today are able to analyze large bodies of text, focusing on concepts rather than single words, and on semantic relationships rather than just frequency counts.

Evidence

There are many types of data suitable for content analysis. It could be used to study the use of negative political messages in television advertisements or to analyze personality characteristics of U.S. presidents based on information provided in biographies. One particularly influential content analysis conducted in the 1970s analyzed popular children's books and showed how different and stereotypical the roles played by boys and girls were. The analysis was useful because it highlighted important trends that had been overlooked.

Content analysis is primarily useful for three types of research problems. First, it is helpful in analyzing large volumes of text. Researchers today can rely on either technological advances, such as Internet searches, or multiple, trained coders to perform the task. Second, it is helpful when a topic must necessarily be studied "at a distance," as is the case in analyzing historical documents or television broadcasts from a hostile country. Finally, it can reveal evidence and patterns that are difficult to notice through casual observations. The authors or readers of the children's books mentioned above may not have been consciously aware of the themes and biases present in the works, but content analysis research has revealed these trends.

Implications

What content analysis does, then, is turn verbal information into numerical data. In doing so, it not only describes the information, but it also opens the way for a researcher to perform additional statistical tests on the material. One problem in content analysis is that researchers must be sure that the categories that are chosen are appropriate for the data. Generally, this means researchers need to spend a lot of time examining the data and their research interests to be sure that the categories accurately reflect what they are interested in.

Charlene Christie

See also Discursive Psychology; Research Methods

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CONTINGENCIES OF SELF-WORTH

Definition

The work of theorists like William James, Charles Cooley, and G. H. Mead suggests that self-esteem, because it is a judgment about the self, must be based on some sort of criteria. These criteria can be called *contingencies of self-worth*. William James suggested that everyone's self-esteem is a result of how competent they feel. Cooley and Mead suggested that everyone's self-esteem is a result of being viewed positively by other people. Contingencies of self-worth theory also emphasizes looking at the bases of self-esteem, but it proposes that people may base judgments about their worth on outcomes in any number of different

areas or domains. Some people may have contingencies of worth in domains like competency or approval, whereas others may base their worth on outcomes, such as being powerful, physically attractive, or virtuous. Good outcomes in contingent domains lead to high self-esteem, and bad outcomes in contingent domains lead to low self-esteem. For example, some people may have self-esteem that is contingent upon getting good grades in school. For such people, getting a bad grade does more than just put them in a bad mood, it also makes them question whether they are worthy human beings. Someone who is not contingent on academic outcomes would certainly be upset by a bad grade, but his or her self-esteem would not be affected by the grade. The theory allows people to hold more than one contingency of worth, and it allows people to hold some contingencies very strongly and others less strongly. The theory also suggests that some contingencies of self-worth are more adaptive than others. In addition, the theory proposes that people's contingencies of worth reveal their areas of vulnerability and guide their actions and motivations.

Background

Until recently, most researchers only looked at one dimension of self-esteem: whether it was high or low. Many people in the Western Hemisphere (especially America) believe that having high self-esteem should lead to all sorts of positive outcomes. Researchers, thus, anticipated that high self-esteem would play a role in a variety of positive outcomes like good grades, prosocial behavior, popularity, and a generally happy life. Similarly, they predicted that low self-esteem would play a role in a variety of problems, including eating disorders, antisocial behavior, drug abuse, and a generally unhappy life. Consistent with intuition, self-esteem does play in role in how happy or sad Americans and people from other Western cultures feel. And initially, simple comparisons between self-esteem and variables like drug abuse or grades in school did sometimes show a relationship—although it was always unclear whether self-esteem caused the outcome or vice versa. But, as researchers did more sophisticated analyses, they began to find that the relationships weren't as strong as originally thought and that self-esteem and some outcomes weren't causally related to each other at all. For example, they found that self-esteem doesn't have nearly as much of a relationship with a child's grades in school as was

originally thought. Similarly, factors other than self-esteem seemed to be at the root of problems like drug abuse. Counterintuitive research also suggests that feeling an unwarranted sense of *high* self-esteem may underlie some antisocial behavior. When challenged, people with this inflated, fragile, and egotistical sort of high self-esteem may become aggressive or violent. In all, the research findings began to suggest that whether self-esteem is high or low doesn't have much of anything to do with material, tangible life outcomes. In sum, researchers were becoming confused about the importance of level of self-esteem.

Contingencies of self-worth theory propose that self-esteem is important and that we may just need to look at it from a more complex perspective. The theory asserts that simply looking at one dimension of self-esteem (high vs. low) isn't sufficient. In addition to looking at *level* of self-esteem, we also need to consider another dimension: *contingency* of self-esteem. Knowing an individual's contingencies of worth would provide researchers with a more complete picture of how life events are related to self-esteem. Only events that are relevant to an individual's contingencies of worth will be related to self-esteem. For example, a child's grades in school may be very closely related to their self-esteem, if that child holds academics as a contingency of worth. High self-esteem people may, indeed, respond aggressively to challenges—if those challenges are related to their contingencies and if those contingencies involve power or dominance over others.

Evidence

Researchers determine which contingencies of self-worth a person holds by administering a questionnaire. Participants indicate degrees of agreement or disagreement to statements on the questionnaire. For example, one item that measures the academic contingency states: "My self-esteem is influenced by my academic performance." If we are to rely on participant responses, researchers must provide evidence that the questionnaire is measuring what it claims to measure. Jennifer Crocker and colleagues have done numerous large-scale surveys and smaller studies that have provided just such evidence. For example, how a person scores on the questionnaire has been shown to predict reactions to actual life events. In one study, college seniors were asked to fill out a contingencies of self-esteem scale. Next, they were asked to complete a level of

self-esteem scale every time they got either an acceptance or a rejection letter from a graduate school. Not surprisingly, self-esteem increased relative to a baseline score when they received acceptance letters and decreased when they received rejection letters. However, these fluctuations in self-esteem were predicted by the academic contingency. The students who most strongly based their self-esteem on good academic outcomes had the greatest self-esteem reactions to news from the graduate schools. Additional research has demonstrated that grades in college classes affect the self-esteem of those who base their worth on academics more so than those who do not.

Moving beyond simple validation of the concept, additional research is finding that contingencies of self-worth are related to a number of other psychological and behavioral variables. Researchers have studied the role contingencies may play in areas as diverse as sexual pleasure, alcohol consumption, eating disorders, gender role beliefs, ideas about how rigid or changeable intelligence is, attachment styles, academic problems, and financial difficulties. It is important to note that most of this research is correlational in nature, and most of it was conducting using college students as participants. Thus, much more work remains to be done, particularly outside of college student samples.

Implications

This theory complements other researchers' ideas about self-esteem. For example, Michael Kernis and his colleagues have suggested that the extent to which a person's self-esteem fluctuates is highly predictive of his or her tendency to be depressed or aggressive. Contingencies of self-worth theory agrees with that perspective and notes that it will probably be harder to achieve consistently positive results in some contingencies (e.g., approval from others) compared to others (e.g., being a virtuous person). Crocker and her colleagues are, indeed, finding evidence that basing one's worth on contingencies that depend on external feedback (e.g., approval from others or physical appearance) is related to negative outcomes, such as stress, eating disorders, drug use, and aggression. These findings are quite consistent with the suggestion from self-determination theory that "contingent" self-esteem, in general, is problematic.

Crocker and her colleagues contend that contingencies of self-worth theory can help advance the study of self-esteem by resolving many contradictions

in the field (e.g., whether self-esteem is a state of being or a stable trait) and by explaining previously puzzling findings (e.g., the self-esteem of stigmatized individuals).

Connie Wolfe

See also Need to Belong; Self-Determination Theory; Self-Esteem; Self-Esteem Stability; Stigma; Threatened Egotism Theory of Aggression

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CONTINGENCY MODEL OF LEADERSHIP

Definition

The contingency model of leadership is a model of leadership effectiveness that predicts group performance will be based on the interplay between leadership style and various situational factors. Because different leadership styles work more effectively in certain situations than in others, the model predicts optimal group performance will result when a leadership style accords with the situational contexts it is best suited to handle.

Four Elements of the Model

Depending on the situation and their personalities, leaders use different tactics to plan, coordinate, and oversee group activities. Certain personalities will better fit certain contexts than others, and conversely, certain contexts will better accommodate certain personalities. One could imagine the mismatch of a drill sergeant berating a symphony orchestra or an orchestra conductor silently coordinating military operations with a baton. This basic premise of the interplay between

person and situation underlies the logic of the contingency model of leadership.

There are four elements of the model. The first concerns the personality of the leader. Broadly, a leader may be classified as either task-oriented or as relationship-oriented. *Task-oriented leaders* care primarily about the bottom line (i.e., whether the job gets done), whereas *relationship-oriented leaders* care primarily about establishing pleasant interpersonal relationships with coworkers. One commonly used approach for assessing leadership orientation asks the leader to recall and identify the person with whom he or she has had the most trouble working. This person may or may not be the most disliked person, but he or she must be the person with whom it is (or has been) particularly difficult to accomplish various work-related tasks. Next, the leader rates this person on various dimensions, such as pleasant–unpleasant, cooperative–uncooperative, and efficient–inefficient. Some leaders tend to rate this coworker negatively across all possible dimensions, whereas others tend to find in this coworker at least some positive qualities. These tendencies signify different leadership orientations: Across the board, negative evaluations indicate a more task-oriented leadership style, whereas a blend of positive and negative ratings indicates a more relationship-oriented leadership style. This measure, called the *least preferred coworker (LPC) scale*, has inspired a wealth of research but to this day remains controversial.

The other three elements of the model concern a leader's situational control. Broadly, *situational control* refers to the leader's sense of influence and control over the situation. Each element of the model corresponds to a different aspect of situational control and will be dealt with in order of importance. The first element, *leader–member relations*, refers to how cohesive the group is and how much the group supports the leader. Without good leader–member relations, all group energy becomes bound up in controlling the group rather than on work productivity. Furthermore, a respected leader better influences the group than a leader with poor relationships with his or her coworkers. The second element, *task structure*, refers to the clarity of task goals. Leaders usually prefer clearly defined tasks with clearly defined requirements (i.e., structured tasks) because they can then more effectively guide their coworkers. The third element, *position power*, refers to the official authority accorded to the leader by the group or by the leader's supervisor. A leader with high power has the capacity to reward and punish workers, a desired commodity for most leaders. Overall, good leader–member relations, a highly structured task, and high position power represent the most positive situation for a leader; conversely, poor leader–member relations, a highly unstructured task, and low position power represent the least favorable situation.

Predictions of the Model

Overall, the contingency model of leadership stipulates that group performance cannot be predicted by either the characteristics of the leader alone or by the characteristics of the situation alone; only their interaction can adequately predict group performance. More specifically, the model makes clear predictions about which leadership styles are most effective under which situations. The model predicts task-oriented leaders are most effective under either highly favorable or highly unfavorable situations; relationship-oriented leaders, on the other hand, are most effective in reasonably favorable situations. Task-oriented leaders succeed under highly unfavorable situations because they are willing to forego congenial relationships with coworkers to accomplish a goal. They also succeed in highly favorable conditions because they are able to relax, assured the team will most likely accomplish the desired goal. Relationship-oriented leaders, however, flourish in conditions of moderate favorability. In situations of moderate favorability, both positive and negative events will likely occur. With positive and negative events essentially balanced, interpersonal problems become the prominent source of reduced productivity. The relationship-oriented leader can sooth these relational problems, allowing team members to refocus on the task at hand. On the extremes of favorability, the relationship-oriented leader struggles. The relationship-oriented leader has difficulty sacrificing interpersonal relationships for a task goal (extremely unfavorable situation), and (interestingly) becomes antsy and overbearing when things are going too well (extremely favorable situation).

Evidence

The criteria for determining the predictive value of the contingency model of leadership has overwhelmingly focused on work group performance or productivity. Whenever possible, tests of the model have employed

objective outcome measures that can be unambiguously quantified, such as win–loss records for sports teams or tons of steel produced per worker. Outcome measures have always been assessed by individuals unconnected to the work group to avoid bias in measurement. A typical study might manipulate various elements of the model and evaluate the extent to which the data agree with what the model would predict. For example, researchers have created experimental conditions where the task is either structured or unstructured or where the leader has either high power or low power. The researchers can then examine the group's productivity and see which leaders perform better in which situations. Most of these studies come from the 1970s and early 1980s; not much research about the model has been done recently.

Although exceptions exist, data collected by various researchers generally tend to support the contingency model of leadership. A statistical technique known as meta-analysis, which allows researchers to combine results from previous studies, has helped settle some of these debates. However, critics continue to question the model's merit, mostly with respect to how some of the variables are measured and interpreted. The LPC scale has been by far the most heavily scrutinized, perhaps for good reason. At face value, it is not unequivocally clear that the LPC scale in fact measures leadership orientation; it might instead measure something else, such as the extent to which one feels psychological distance toward one's disliked coworkers. Indeed, these measurement issues cannot be taken lightly. Researchers must always be painstakingly clear about what they are measuring in their experiments; otherwise, drawing sound conclusions from their data becomes impossible.

Implications

The contingency model of leadership was an important breakthrough in predicting group performance. It is theoretically compelling (incorporating both the person and the situation), clearly testable, and widely applicable. (In fact, training programs based on the model have been implemented in business.) Most importantly, in most cases the model appears to work. Although researchers have not published much about the model recently, proponents still argue there are theoretical issues that need to be clarified and resolved. If these gaps in the model are adequately addressed, the model might still uncover novel, interesting phenomena about group behavior and performance previously unknown.

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See also Group Performance and Productivity; Leadership

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CONTRAST EFFECTS

Definition

Most judgments in everyday life are evaluative in nature. People may want to know whether a particular grade is good or bad, whether a person is trustworthy, how well someone performed on a test, or what a person's athletic abilities are like. Rarely can such questions be answered in absolute terms (e.g., running 1 mile in 5 minutes). Rather than absolute, judgments are usually *relative* and result from comparisons. That is, judgments are mostly evaluations of a target with respect to some comparison standard. For example, having a C in a class is considered very differently depending on whether everybody else has an A or whether all others failed. Moreover, the C is evaluated very differently depending on whether an A or a D was expected. Or, consider a temporary headache that feels quite bad—in comparison to a chronic migraine, it probably appears less severe. As these examples demonstrate, judgments may differ significantly depending on the comparison standard they are contrasted to, a phenomenon that social psychologists refer to as *contrast effects*. More formally, a contrast effect reflects a negative relation between the implications of a standard and the resulting evaluation of a target, that is, the more positive (negative) the standard, the more negative (positive) the evaluation of the target.

Comparison Standards

Standards Are Not Fixed

Comparison standards are not fixed but rather are highly flexible. They may vary from one situation to another and due to a mere change of the standard, things appear differently although they factually haven't changed at all. For example, in job interviews the interviewer may evaluate the candidates in relation to an ideal perfectly fitting the job. Alternatively, in the course of several interviews, the interviewees could be compared to prior candidates, presumably resulting in very different evaluations. Or, as in the above example, grades can be evaluated referring to the performance of others, one's own expectations, and so forth.

Selection of Standards

If comparison standards are not fixed, a crucial question pertains to what influences their selection. First, *relative accessibility* of standards determines the likelihood of a comparison standard to be selected. Accessibility means how easily something comes to mind. Imagine you are watching a model contest on television and are suddenly asked to evaluate a partner's or friend's attractiveness. As research has shown, it is likely that your friend would score badly in this situation, just because a particularly high standard (a model) was made accessible through the television show. In most other situations, you would probably rely on more average, less attractive comparison standards (like people on the street or in your class). In more general terms, the likelihood of any piece of information to serve as a comparison standard depends on how easily it comes to mind; that is, how accessible it is in a given situation.

Second, the *applicability* of a comparison standard also determines its likelihood of selection. For example, imagine you evaluate the size of a person, asking yourself whether this person is tall or small. Obviously, you could apply many different comparison standards, for instance, depending on the person's sex. If the person being evaluated is a female, the average height of the general population is not really meaningful; what would be more meaningful is to refer to the average height of females. But what would happen if the person being evaluated is a professional basketball player? These examples demonstrate that to be used as a comparison standard, the respective piece of information has to be applicable, or meaningful. Interestingly, individuals apply different standards to the social behavior of different groups. As a result, the mildly aggressive behavior of a female is evaluated as more aggressive than the same behavior of a male because, based on existing stereotypes, a higher standard for aggressiveness is applied to men than to women.

Note, however, that in many situations, the selection based upon accessibility and applicability is quite useful. Malleability of evaluative judgments, therefore, is not a bad thing, but rather a highly adaptive feature.

Social Comparison

Judging something with respect to some comparison standard is a common phenomenon in daily life, regardless of whether situations, objects, or persons are evaluated. Nevertheless, comparisons of yourself to other people (social comparisons) are a special case, because at least one other prominent criterion is available: the similarity between you and the comparison standard. In general, similar people are more likely to be used as comparison standards than are dissimilar people, supposedly because comparisons to similar people convey more valid information. For example, comparing your own running speed to a person 20 years younger or older may be less informative than comparing it to someone of your own age. Importantly, whether the contrast resulting from your comparison will be positive or negative depends on whether you choose a worse or better standard, a phenomenon termed *downward* (standard is worse) or *upward* (standard is better) *social comparison*.

Practical Implications

Just as evaluations are predominant in people's lives, so too are contrast effects. Apart from their occurring in many judgments people make, contrast effects also are used to influence our judgments. For example, a reduced price looks much cheaper than it actually is only because the cancelled original price tag is still clearly visible. Compared to the original price, the new one is cheaper—regardless of whether it is actually cheap. Or assume you just decided to buy a new suit. Quickly, the smart salesperson offers you a somewhat expensive tie that goes nicely with the suit. In comparison with the price of the suit, the tie does not seem too expensive, but without the comparison standard

elicited by the suit, you may never have considered buying such an expensive tie.

Herbert Bless
Rainer Greifeneder

See also Accessibility; Assimilation Processes; Social Comparison

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CONTROL

Definition

The term *control* has a long history in social psychology and has been used in a variety of ways. At the most general level, control can be understood as influence, whether it be over internal states (as in emotional control or self-control) or over external aspects of the environment, including control over outcomes (i.e., being able to attain outcomes you desire) or over other people (i.e., making them do what you want them to do). Psychologists from different perspectives have focused on this basic construct in a multitude of ways. Some have focused on understanding the effects of changing circumstances in the environment to permit different degrees of control to individuals. Research also has focused on the subjective experience of feeling like you have control over outcomes you attain. Others have focused on the antecedents and consequences of feeling like you are being controlled—typically by other people. Still others have used the term *control* (or *controlled*) to help differentiate between those aspects of cognition and behavior that are consciously, as opposed to nonconsciously, determined. Each of these instantiations of the term *control* has its own nuanced meaning and place in the history of social psychology.

On Being and Feeling in Control

Among the earliest authors to use the term *control* as a central construct was Julian Rotter in the 1950s. Rotter's social learning theory asserted that behavior is a function of one's expectations about future reinforcement. Specifically, Rotter differentiated between two sorts of expectations, which he referred to as *loci of control.* When people expect that they can control the procurement of desired outcomes (i.e., that their behavior will lead to the outcomes), they are said to have an *internal* locus of control. People with an internal locus of control are expected to be more motivated to behave in an attempt to attain the desired reinforcements. By contrast, when people expect that they cannot control the attainment of desired outcomes (i.e., that the outcomes are controlled by fate or chance), they are said to have an *external* locus of control. In other words, the outcomes are controlled by forces external to them. People with an external locus of control are hypothesized to be unmotivated to act, because they believe their actions will not lead to the outcomes they desire.

Subsequently, in the 1970s, Martin Seligman used the concept of having control over outcomes as the centerpiece for his theory of helplessness and depression. Seligman speculated that when people experience lack of control over outcomes in their environments, they tend to develop a chronic condition, referred to as *learned helplessness,* which he suggested was closely related to depression. Having an external locus of control thus bears similarity to being helpless, although the concept of locus of control was viewed as a personality variable (i.e., something that is differentially strong from one person to another), whereas the experience of helplessness was understood as a phenomenon caused by objective lack of control in the environment.

In a series of poignant studies that illustrated the helplessness phenomenon, animals would be placed in a small cage with two compartments. The floor in one was covered with an electrified grid. This half of the cage was separated from the "safe" compartment by a wall, the height of which could be manipulated by the experimenter. Early on, the animals were positioned on the side of the cage with the electrified grid beneath them, and over the course of several trials, they learned that they could escape the unpleasant (though nonlethal) shocks by jumping over the dividing wall. However, when the height of this dividing wall was varied randomly, in such a way that escaping

the shocks became something that the animal could no longer control (i.e., could no longer escape reliably), the animals gradually learned to stop trying. Further, the impact of this experience was chronic and emotionally charged. The animals refused food and water, and their health deteriorated. This illustration is thought to mirror the development of severe depression in people and serves to demonstrate the consequences of lacking objective control over the desired outcomes in one's environment.

The concept of control over outcomes is also central to self-efficacy theory as outlined by Albert Bandura. Bandura maintained that being motivated required people to expect that they can obtain desired outcomes, but he said that there are two key components to expectations of control. The first is the belief that there is a contingency or link between a particular behavior and a desired outcome; the second is the belief that one is competent to do that requisite behavior. Bandura's theory focuses much more on the expectancies about efficacy or competence than about the contingencies, essentially assuming that the contingencies do typically exist.

More recently, the term *perceived control* has been adopted as the most common way of talking about having an internal locus of control or expecting to have control over outcomes. Studies have now shown that perceived control tends to be adaptive and is linked to a number of positive outcomes, including better performance and well-being. For example, those with higher perceived control tend to perform and learn more effectively. They experience crowded spaces as less aversive. In general, they report fewer physical health symptoms (such as headaches), and in the case of institutionalized aged people, studies have linked lower perceived control to an increased rate of mortality.

Researchers have argued that human beings have a strong desire to perceive that they have control over outcomes. A line of research by Ellen Langer and her colleagues helped illustrate this point by demonstrating that this desire is so strong that people tend to perceive that they have more control than they actually do. Langer dubbed this phenomenon the *illusion of control.*

On Being and Feeling Controlled

A number of researchers have focused on a related, but distinct aspect of control, that is, the experience of being or feeling controlled—particularly by other people—as opposed to feeling a sense of autonomy or freedom. Among the first researchers to identify this area as important for social psychology was Richard deCharms in the 1960s. DeCharms speculated that many of the positive outcomes that had previously been linked to an internal locus of control were, more precisely, a function of feeling free rather than controlled. In so doing, he was changing the focus from control over outcomes to the control of behavior, essentially asking whether people were controlling their own behavior or whether it was being controlled by others.

Edward Deci and Richard Ryan, in their self-determination theory, identified this experience of freedom as a basic psychological need. They referred to this experience as the need for *autonomy,* which is the opposite of feeling controlled. Stated differently, this perspective suggests that it is important for people's well-being *not* to be controlled by others; they need to feel a sense of regulating their own behavior. The theory therefore characterizes social environments relative to the degree to which they support people's autonomy versus control people's behavior. Considerable research has identified aspects of environments that contribute to their being supportive of autonomy versus controlling. Experiments have shown, for example, that offering people choice about what they do and how they do it, providing people with a meaningful explanation for why they are being asked to do something, and avoiding the use of words and phrases that imply control (e.g., *should, must, have to*) all contribute to people experiencing a situation as being supportive of autonomy. In contrast, many factors have been identified that tend to leave people feeling controlled. Perhaps the most surprising is that people tend to feel controlled when they are offered a reward for doing something. It seems that tangible rewards are frequently used to get people to do things they would not otherwise do, so people come to associate the rewards with being controlled and they tend to feel controlled when they do something to get a reward. Other factors that are controlling include threats of punishment, surveillance, deadlines, critical evaluations, goal imposition, and pressure to win a competition.

Overall, a great deal of research has shown that when parents, teachers, managers, coaches, and physicians are supportive of autonomy rather than controlling, their children, students, employees, athletes, and patients tend to do better in many ways. They learn

better, perform better, persist longer at various tasks, experience greater job satisfaction, behave in healthier ways, and feel better about themselves.

Automatic Versus Controlled Processes

In a literature that developed quite independently of the research cited earlier in this entry, cognitively oriented social psychologists have drawn an important distinction between what they call automatic and controlled mental processes. *Automatic processes* are characterized as operating without awareness, effort, or intention. Have you ever noticed how you sometimes eat something without even realizing you are doing it? You probably also shift your car automatically without giving it any attention or thought. Such behaviors can be caused by processes that operate out of your conscious experience. In other words, you are not really controlling your own behaviors; some nonconscious process is controlling you. In contrast, *controlled processes* are characterized by the opposite set of features. They require more effort and conscious awareness. You are making the decision to do the behaviors, so you are more in control of yourself and your behaviors. Because such behaviors use people's limited attention, they tend to interfere with doing other controlled behaviors. In other words, if you are engaged in one activity that requires controlled mental processes, your performance on a second concurrent task that requires controlled processing is likely to be impaired.

One of the most interesting features of the research in this area is that, in general, one type of mental processing (i.e., automatic or controlled) does not appear to be more adaptive than the other. Under different circumstances, each has its advantages and disadvantages. For example, in general, when it comes to novel situations that require consideration of a variety of factors, the controlled processing system seems to be significantly more flexible and effective. Careful, deliberate consideration of different courses of action usually results in the most effective behaviors. Often, however, behaving more quickly or with less attention may be advantageous. In such cases, the automatic processing system tends to be preferable. Further, the automatic processing system requires less energy, so there may be circumstances where converting to the automatic system—through habituation or practice— would free up psychic energy to address more complex problems. The drawback that accompanies faster and less effortful processing, however, is the decreased flexibility.

Many researchers have argued that most of everyday life, much more than we intuitively imagine, is dictated by the automatic processing system. They suggest not only that the processing capacity of the controlled system is limited but also that the frequency with which it can be employed in everyday life is quite limited. For instance, Roy Baumeister and colleagues have speculated that the controlled processing system may play a casual role in our actions as little as 5% of the time, although this point is still debatable.

One interesting phenomenon that has emerged from this literature is that, often, attempting to exert deliberate, conscious control over activities that are typically automatic results not only in decreased efficiency but also in decreased quality of performance. Take, for example, the coordination of movements required for jogging; this complex sequence of actions is normally managed by the automatic processing system, resulting in a series of fluid decisions. If, however, people were asked to consciously and deliberately consider their actions as they jogged, the result would be slower, more awkward, movement. In this case, attempting to use the controlled processing system to manage decisions formerly ascribed to the automatic system is clearly disadvantageous.

Finally, it is important to note that most researchers do not see the distinction between controlled (i.e., conscious) and automatic (i.e., nonconscious) processes as black and white. Although it was originally believed that these two categories were relatively distinct, researchers now believe that the two categories are often blurred. John Bargh, for instance, has argued that most processes of interest to social psychologists are actually best defined by a mix of features traditionally ascribed to the automatic and controlled categories.

Summary

The term *control* has taken on a variety of different meanings in social psychology. Despite the common thread of all the work on control relating to the degree to which people control their own behaviors or outcomes, each use of this term has its own history and corresponding literature. Some work has focused on the degree to which people feel able to control (i.e., attain) the outcomes they receive. Some has focused on whether people's behavior is autonomously regulated

or is controlled by others. And some has focused on how much of people's behavior is regulated automatically, out of their awareness, and how much is controlled by conscious, more deliberative processes.

Arlen C. Moller
Edward L. Deci

See also Automatic Processes; Controlled Processes; Control Motivation; Learned Helplessness; Locus of Control; Self-Determination Theory; Self-Efficacy

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CONTROL CONDITION

Definition

The control condition in an experimental design lacks any treatment or manipulation of the independent variable. People assigned to the control group serve as the basis of comparison for the people in the experimental condition. Everything in a control condition is the same as the experimental conditions except that the independent variable is absent or held constant. Assuming that the groups were equivalent prior to the treatment, any differences between the control condition and the experimental condition can be attributed to the effect of the independent variable.

Evidence and Implications

The control condition is designed to be equivalent to the experimental condition except for the independent variable, which is absent or held constant under its normal circumstances. Thus, the control condition provides a basis for comparison. The researcher assesses the influence of the independent variable by comparing the outcomes under the experimental and control conditions. For example, if researchers were to design an experimental study to test the effect of loud music on test performance, students who did not listen to loud music would be in the control group. The researchers could compare the test score of the students who did listen to loud music with the students in the control group to determine whether loud music had an impact on test scores.

Not all experimental designs have a control condition. However, it is useful to include a control condition to determine the effect of the procedure outside the effect of the independent variable. Consider the design of an experiment in which researchers are testing the effectiveness of two different types of medicine on headache relief. Participants with headaches would be divided into two groups, with each group getting one type of medicine. After an hour, researcher would ask participants to rate the effectiveness of the headache medicine. From this design, researchers could determine if one of the medicines was more effective that the other. They could not determine, however, if either of these medicines was more effective than no medicine at all. It is possible that simply believing you are taking headache medicine can lessen the pain. If the researchers included a control condition in this experimental design, they could make this comparison. Participants could be divided into three groups, with two groups receiving different headache medicines and one group receiving a placebo. Then, researchers could compare the effectiveness ratings of the two real headache medicines with the ratings from the control group. If the effectiveness ratings provided by participants receiving actual medicine were greater than those provided by participants in the control group, researchers could conclude that taking a headache medicine was more effective than taking no medicine. Thus, including a control condition allows researchers to compare the way things are in the presence of an independent variable with the way things would have been in the absence of an independent variable.

Charlene Christie

See also Experimental Condition; Placebo Effect; Research Methods

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CONTROLLED PROCESSES

Definition

Recall the last time you drove a car. For most people, driving is fairly automatic. People do not have to think about their driving but can instead allow their minds to ponder other issues, such as what to eat for dinner or what to do later. Controlled processes occur when drivers must pay active attention to the road and their driving, such as when a light suddenly turns red, another car cuts into traffic, or when they must figure out where to go.

Controlled processes are mental operations that are intentional, effortful, inefficient, and flexible. That they are intentional means they are under one's deliberate control. A love-struck student, for example, might intentionally choose to stay focused on his or her course readings rather than daydream about his or her lover. Controlled processes are effortful in the sense that they require a relatively large amount of one's attention, and are tiring and taxing. Playing chess, for example, requires controlled processing for most people because they cannot attend to other events around them (e.g., watch a movie, carry on a complex conversation) while simultaneously thinking about the chess game. Likewise, after playing a chess game, most people probably feel somewhat mentally drained or fatigued. This indicates that the chess game probably required effortful controlled processing and drained the chess player's mental energy as a result.

Controlled processes are inefficient because they are slow and cumbersome. Taking a test of analytical reasoning, for example, requires controlled processing because one must take the time to reason through each problem on the test, step by step, until one derives the correct solution. Like solving a math problem, controlled processing requires multiple steps, and each step must be finished before the next one can begin.

Though controlled processes are costly in the sense that they are effortful and inefficient, controlled processes are highly beneficial because of their flexibility. Instead of doing what a person typically does, for instance, he or she can change his or her routine. Rather than go to the pizzeria across the street for lunch every day, a hungry student could deliberately choose to stay home and make a sandwich.

One of the most frequent tests used to examine controlled processes is the Stroop task (named for John Riley Stroop). In one version of this task, people are presented with the words *red, blue,* and *green.* Each word appears in red, blue, or green colored ink, and the color ink the word appears in is different from the word's meaning. So, for example, the word *red* might be shown in blue ink, or the word *green* might be shown in red ink. For the task, people are asked to state aloud the color that the word appears in and to ignore the meaning of the word. As you can probably imagine, this task is very difficult because it requires a large amount of controlled processing. One must deliberately choose to say the color of the ink and ignore the words' meaning. Among literate individuals, the natural tendency is to read a word immediately upon seeing it (indeed, try to look at a word and not know its meaning immediately), and so it is effortful to refrain from doing so. Performance on the Stroop task is largely inefficient too— people perform the task relatively slowly and cannot perform other tasks (e.g., understand a conversation) while they are doing it. Last, the Stroop task illustrates the flexibility of controlled processing because people can deliberately choose to ignore the meaning of the words. The Stroop task is similar to trying to watch a movie that has subtitles in one's natural language—it oftentimes requires a large amount of controlled effort to ignore the subtitles and pay attention to the movie.

Controlled processing underlies many important abilities of the human psyche. First, controlled processing enables choice and decision making. It allows people to consider multiple options when making a decision, imagine possible outcomes, and choose which path to take. It enables people to weigh the costs and benefits of their decisions, such as the costs and benefits of studying rather than partying. Second, controlled processing allows people to exert self-control and reprogram the self. Self-control is the ability to control one's thoughts, emotions, urges, and behaviors, and this ability relies extensively on controlled processing. A person might have a negative or disturbing thought, for instance, but deliberately and effortfully control his or her thoughts to focus on more positive and pleasant topics. Likewise, a dieter would use controlled processing to decide to eat healthier and then

later pass up a delicious desert after dinner. Controlled processing also allows people to combine and synthesize different sorts of information. For example, a spouse might be told by her husband that he was out with friends one night, only to discover later that he was shopping at the mall. These two pieces of information could be synthesized with the fact that the spouse's birthday is approaching, and she would then realize that her husband was probably buying her a terrific birthday present.

Other capacities that controlled processes underlie include using rules to figure out solutions to problems (e.g., algebra problems), thinking logically (e.g., on the Scholastic Aptitude Test), planning ahead (e.g., "Which college should I attend?"), and being creative. Controlled processes also play a vital role in acquiring new skills. When learning to play tennis, for instance, people must actively and effortfully pay attention to their motor movements so as to hit the tennis ball properly, and they must also consider all of the rules while playing.

In sum, controlled processing is essential to function successfully in the modern world. It allows people to think in complex ways and make important decisions and sets humans apart from other animals that merely react automatically to the surrounding environment.

Matthew T. Gailliot

See also Automatic Processes; Auto-Motive Model; Dual Process Theories; Ego Depletion

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CONTROL MOTIVATION

Definition

Control motivation refers to the motive to exercise at least some control over important events in our lives. The extent to which control motivation is innate or learned remains a point of discussion. But many psychologists argue that virtually all people are motivated to establish a sense of mastery, that is, to see themselves as capable individuals who can exert some influence over events and outcomes. This motive is also sometimes referred to as *effectance motivation*.

Positive Aspects of Personal Control

An abundance of research suggests that people generally prefer to control the events in their lives and that exercising control is good for people's well-being. Even in situations in which individuals exercise little control, simply believing that they *could* exert control usually causes people to feel better, cope with adversity better, and work more efficiently. In fact, a case can be made that feeling in control is a critical component of well-being.

Participants typically have adverse reactions when researchers take control away from them or place them in situations in which they have little or no control. Psychologists studying *learned helplessness* often present participants with an unpleasant stimulus, such as loud noise. Whereas some participants find they can turn the noise off by solving simple problems, such as anagrams, others are given problems that are impossible to solve. Participants who learn they can control the noise have little difficulty when later working on unrelated tasks. However, participants exposed to uncontrollable noise do poorly on subsequent tasks, even when they have received the same amount of noise as the other participants. Many psychologists point to similarities between participants in these laboratory studies and people suffering from depression. Studies find that a perceived lack of control over important events often triggers the onset of depression, and that depressed individuals frequently believe they are unable to exercise control over important aspects of their lives.

Developing or maintaining a sense of personal control also is beneficial when attempting to cope with many of the sad, stressful, and tragic events in life. Even when people face circumstances clearly out of their control, focusing on what they *can* control typically helps them cope with their problems and return to a positive state of mind. In one study, women with breast cancer who believed they could control their emotional reactions, aspects of their treatment regimen, and some of their physical symptoms showed better emotional adjustment than women who felt they had little ability to control what was happening to them. Although none of the women could directly control the course of the disease, those who focused on what they could control fared better than those who did not.

Negative Aspects of Personal Control

There is little doubt that feeling in control goes hand in hand with positive adjustment and well-being. But this does not mean that people want to control everything or that control is always desirable. People sometimes relinquish control because they don't want the responsibility that comes with being in charge. This is particularly true if individuals feel they lack the skills necessary to do the job well. Often the fear of looking foolish in case of a poor performance keeps people from accepting assignments or positions of responsibility. Participants in one study experienced higher levels of anxiety when given the opportunity to choose which of three tasks they were to work on, but only when they thought the experimenter would know how well or poorly they performed. In extreme cases, people engage in *self-handicapping,* in which they take steps to ensure a poor performance, such as not studying for a test, rather than acknowledge that they gave it their best and failed.

Sometimes people simply don't want the extra work that comes with increased control. Thus, in some situations people actually prefer fewer rather than more choices. When shoppers in one study were given the opportunity to sample from six types of jam on display at their local supermarket, they were 10 times more likely to purchase jam than shoppers who were shown 24 flavors they could sample from. Tasting more jams no doubt gave the participants a better chance of choosing just the right one, but the extra effort made the task undesirable.

People often relinquish control to more qualified individuals, thereby increasing the chances of a good outcome for themselves. This is why patients frequently rely on doctors to make medical decisions for them. Although many people prefer to play a role in their health care, when given responsibility for decisions they feel unqualified to make, patients often experience anxiety and depression.

Individual Differences

Although all people are motivated to control the events in their lives, psychologists also can identify individual differences in this motive. Psychologists can place people along a continuum from those with a high *desire for control* to those who are low on this trait. Knowing a person's desire for control score allows psychologists to predict behavior in a large number of settings. For example, people high in desire for control are more likely than lows to assume leadership roles, control the flow of a conversation, work harder on challenging tasks, and attempt to influence the people they work with. Consistent with research on learned helplessness, highs also may be more vulnerable to depression, because life is not always arranged to satisfy their high need for control. People high in desire for control tend to react more strongly to stress than do lows, but they also cope better because they typically take steps to do something about the problem.

Jerry M. Burger

See also Control; Coping; Depression; Learned Helplessness; Self-Determination Theory; Self-Handicapping; Stress and Coping

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Cooperation

The theme of cooperation has been a prominent domain of theory and research within a variety of disciplines, including philosophy, political science, economics, sociology, biology, and psychology. The broad interest in cooperation is not surprising. This theme is intimately linked to the basic views and assumptions regarding human nature and relevant to the functioning of dyads, groups or organizations, and even societies. Although it is often assumed that humankind is rationally self-interested, more recent theorizing and research reveals that human nature is far richer than the concept of selfishness is able to capture.

Definition

Cooperation is formally defined by the tendency to maximize outcomes for self and others ("doing well

together"). It is often contrasted to *competition*, the tendency to maximize relative advantage over others ("doing better than others"), and to *individualism*, the tendency to maximize own outcomes with no or very little regard for others' outcomes ("doing well for yourself").

Analysis

Cooperation and competition have been examined in several paradigms, although such issues have received most direct attention in so-called experimental games, such as the well-known Prisoner's Dilemma Game. This is a situation in which people often face two choices—a cooperative choice, which helps others at some cost to self, and a selfish choice, which harms others but serves self-interest. Cooperation has also been studied in the context of other experimental game situations as well as in real-life contexts. In all of this research, the key question is: How can we promote cooperative behavior that benefits outcomes for all individuals involved? Research has indeed indicates several personality variables and situational variables that affect cooperative behavior.

To begin with, people differ in their tendency to cooperate or not. Some people (*prosocials*) are simply more strongly inclined to make a cooperative choice than are others (*individualists* and *competitors*), who may more likely to make a selfish choice. This variable, called *social value orientation,* is also relevant to understanding cooperation in everyday life. For example, prosocials are more likely to engage in self-sacrifices in their close relationships, are more likely to help others, and are more likely to make donations to noble causes, such as helping the ill and the poor. Also, prosocials have a greater number of siblings, especially sisters, than people who are more self-oriented. Older people are more likely than younger people to be prosocial. Another personality variable is *trust,* or differences in the degree to which one believes others are honest and cooperative. People with high trust tend to cooperate more than those with low trust. One reason to do so is because of self-protection. If you do not trust others, you think that you will be the only one to cooperate—which means that the other will indeed take advantage of you. When people with low trust think that they can make a contribution (and know for sure that they will not be exploited or lose their contribution if others do not cooperate), then they tend to be as cooperative as those with high trust.

Clearly, the situation matters a lot too. Generally, people are much more likely to cooperate if the *reward* for cooperation is greater, or if the *costs* for noncooperation are greater. Thus, interventions by which cooperation becomes structurally more attractive (reward) and noncooperation less attractive (punishment) are effective means to promoting cooperation. These are policies that governments often adopt to enhance collectively desired behavior (cooperation)—by rewarding cooperative behavior (e.g., subsidizing the use of public transportation to decrease traffic jams) or punishing noncooperative behavior (e.g., penalizing those who use too much water during a water draught).

Cooperation may also be rooted in powerful *norms* that prescribe rules for dealing with specific interdependence problems and opportunities. Although often implicit, norms tend to exert fairly strong influences, in that they often prescribe choices that protect or enhance group outcomes, which are applicable to a great variety of situations and, when violated, tend to result in disapproval by the observers and guilt in the actor. Also, norms tend to play a somewhat different role in different cultures. For example, in collectivistic cultures one may witness cooperation in response to one another's needs (e.g., *communal relationships*), whereas in individualistic cultures one is more likely to witness cooperation through the norm of reciprocity (e.g., *exchange relationships*).

Tendencies toward cooperation or competition are often inspired by beliefs or actual observations of others' behaviors. The general rule is that cooperation tends to evoke some cooperation, whereas competition evokes competition. Beliefs regarding others' cooperation and competition are strongly interrelated with one's own inclination to cooperate or compete. In the context of dyadic relationships, there is a *social–evolutionary* basis for the functionality of the so-called tit-for-tat strategy. This strategy, which commences a cooperative choice and subsequently imitates the other person's previous choice, is one of the most effective means for eliciting stable patterns of mutual cooperation). Indeed, tit-for-tat effectively rewards cooperation by acting cooperatively in turn and punishes noncooperation or competition by acting noncooperatively in turn.

There are important psychological differences between dyadic relationships and larger group relations. To begin with, *anonymity* increases with group size. That is, unlike dyadic relationships, in larger groups one can almost never be sure who was making

a cooperative or competitive choice. Also, with increasing group size, individuals tend to become substantially more pessimistic about the *efficacy* of their efforts to promote collective outcomes. And individuals tend to feel lower levels of *personal responsibility* for collective outcomes with increasing group size. For these reasons, individuals tend to exhibit lower levels of cooperation, as groups are larger in size. If groups involve more than eight or ten people, then group size does not seem to matter so much anymore.

Paul A. M. Van Lange

See also Communal Relationships; Prisoner's Dilemma; Prosocial Behavior; Social Value Orientation

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Coping

Definition

Coping refers to the thoughts and behaviors that people use to deal with stressful situations. Although most psychologists limit the concept of coping to conscious and intentional efforts to manage stressful encounters, some theorists have argued that more automatic and unintentional ways of dealing with stressful circumstances should be included within the coping rubric.

History and Background

The history of coping as a psychological construct mirrors the history of academic psychology since the mid-20th century. Three streams of thought during the 1940s and 1950s converged to herald the study of coping: the psychoanalytic notion of defense mechanisms, the concept of stress, and experimental psychology's return from its exclusive focus on observable behavior to the study of mental processes.

Freud's concept of defense—the mind's way of keeping out of awareness unpleasant thoughts and feelings—was popularized by his daughter, Anna Freud, who described various defense mechanisms in detail. According to Anna Freud, some defense mechanisms are more effective or adaptive than others, an idea that foreshadowed current thinking regarding the relative effectiveness of various coping strategies. Anna Freud also observed that although there are many defense mechanisms, people tend to have preferred defenses for dealing with threatening situations, an idea that anticipated current thinking about "coping styles." But the most direct way in which the notion of defense mechanisms influenced the development of the coping field is through its focus on the mind's ability to respond to threatening experiences in an effort to reduce the experienced threat.

At the same time—during and soon after World War II—there was keen interest in how soldiers dealt with the demands of combat and why some soldiers handled combat better than others. Hans Selye had introduced the concept of biological stress, including the body's response to such stress. Selye's 1950 address at the American Psychological Association meeting prompted psychologists to consider whether the psychological stress of combat might be met with mental efforts to reduce the threatening experience.

The third precursor of coping as a focus of study was the "cognitive revolution" in psychology. As George Miller has noted, this was actually a counterrevolution. The original revolution came earlier in the 20th century when an influential group of experimental psychologists, most notably B. F. Skinner, shifted psychology's focus from the science of mind to the science of behavior. In their effort to focus exclusively on observable behavior, these experimental psychologists viewed people's thoughts and feelings as irrelevant to psychological science. Although social and clinical psychology had never abandoned mental constructs, the cognitive revolution of the 1950s and 1960s was psychology's enthusiastic return to the study of how people think about themselves and their world.

The concepts of defense mechanisms and psychological stress—and psychology's renewed efforts to understand mental mechanisms—set the stage for

Richard Lazarus's pioneering studies of coping. In the 1950s and 1960s, Lazarus conducted a series of now classic studies to determine whether people's ways of thinking about a stressor affected their reactions to the stressor. Lazarus and his colleagues showed threatening films to research participants while recording their heart rate and sampling reports of their subjective stress. One film captured a series of subincision operations performed on a young man's genitals. The other film depicted bloody woodshop accidents.

Study participants were exposed to orienting statements designed to influence how they interpreted the film's events. One statement, designed to help participants deny the severity of what they were about to see, asserted that the accidents were staged for effect. Another statement, designed to help participants distance themselves from the action, declared that the study was focused on aboriginal customs. Yet a third orienting statement drew attention to the threat by affirming that several of people depicted in the film suffered severe pain and infection from the rituals. Lazarus found that participants' reports of subjective stress and their heart rate were influenced by the various orienting statements: Individuals who received denial or distancing statements had a lower heart rate and reported less stress than their counterparts who received no orienting statement. People whose orienting statement highlighted the threat had a higher heart rate and reported more stress compared to individuals who received no orienting statement. These studies, demonstrating that the way people think about a stressful encounter affects their emotional and physiological reaction to the encounter, were the experimental precursors of coping research over the past 50 years.

Importance of Coping

Coping plays a central role in psychological theory, and it has significant implications for public health and health-related interventions. Its relevance to theory is exemplified in the understanding of how people adjust to uncontrollable stress. Several major theories of how people respond to uncontrollable stress have been described in social and experimental psychology, including the learned helplessness model of depression. These theories originally asserted that after exposure to uncontrollable outcomes, people try to regain personal control. If control is beyond their reach, they were portrayed in these theories as feeling hopeless

and giving up. But coping research demonstrated that even when people cannot control an aversive outcome, by using certain cognitive coping strategies (described later in this entry) they can avoid a sense of hopeless despair and perhaps even gain strength from exposure to the stressful encounter. Coping also plays an important role in theories of human vulnerability and resilience: Why does adversity lead some people to become depressed, whereas others seem to weather the same adversity or perhaps even thrive in its aftermath? Although certain biological predispositions may play a role, it has become increasingly clear that coping is related to both psychological vulnerability and resilience.

Coping is also an important aspect of personality, an area of psychology that is closely linked to social psychology. Niall Bolger and others have depicted coping as personality under stress. Finally, coping is intimately related to theories of emotion, particularly how people regulate their emotions. Since one goal of coping efforts is to alleviate negative emotions and promote positive emotions in the face of stress, this aspect of coping can be thought of as emotion regulation in stressful circumstances. Some psychologists have suggested that both coping and emotion regulation are components of the *self-regulation* construct.

The practical importance of coping includes its potential (as yet largely unfulfilled) to foster interventions designed to help people adapt to serious illness, chronic pain, or significant loss. Coping research also holds the promise of guiding public health interventions for people exposed to extreme stress or traumatic events.

Unresolved Issues in the Study of Coping

Several scholars have lamented that although coping may be the most widely studied topic in psychology, the yield from this vast area of inquiry has been somewhat disappointing. For example, social psychologists still do not really know how coping operates, and for quite a few coping strategies they don't know if or when coping is helpful. And although,, in principle coping theory and research should inform interventions for people facing threatening experiences such as serious illness, chronic incapacitating pain, or natural disaster, with few exceptions, coping interventions do not draw on coping theory or research.

In part, the relatively meager yield from coping research reflects the field's excessive reliance on coping questionnaires, which require individuals to recall how they coped with a particular stressor. It is now clear that recalled coping bears only a modest resemblance to coping as it actually occurs. Another problem is that relatively few research investigations have examined coping repeatedly as coping strategies unfold over longer periods of time. And coping as it is now studied involves people's efforts to deal with events that have already occurred or that are now occurring. With few exceptions, the coping literature has been silent regarding people's coping efforts to prevent or anticipate stressors. These so-called proactive coping strategies may explain in part why some people experience fewer stressors than others.

Even if coping research began to remedy each of these problems of measurement and method, the field would still have to deal with several conflicting theoretical approaches. Some psychologists group various coping strategies based on logic. Perhaps the most popular approach, proposed by Susan Folkman and Lazarus, distinguishes two forms of coping. *Problem-focused* coping attempts to alter the problem that produces the experienced stress. Following through on a plan of action to change a threatening situation is an example of problem-focused coping. Folkman and Lazarus's second form of coping is *emotion-focused* coping, which attempts to reduce the negative emotions generated by the stressor by, for example, distracting oneself from the problem. But other psychologists, most notably Rudolf Moos, prefer a three-factor categorization of coping: *active behavioral* coping, which is the same as problem-focused coping; *active cognitive* coping, for example, trying to find some benefit or positive feature of an otherwise negative experience; and *avoidance,* a decidedly emotion-focused category, for example, reducing tension through alcohol use. Still other theoretical models are based on statistical analyses of people's coping scale responses rather than on a logical grouping of coping strategies. These statistically derived models typically yield some variation of four coping categories: *problem-focused, emotion-focused* or *avoidance* coping, coping through *social engagement* or support from others, and coping by *creating positive meaning* from the stressful encounter. Several carefully designed studies of individuals facing their own or a loved one's life threatening medical condition or a disaster have demonstrated that coping through *creating positive meaning/active cognitive coping* rather consistently leads to better psychological and health outcomes. These studies, which capture the promise of studying coping during threatening encounters, are described later in this entry.

The "Fit" Between the Situation and the Coping Strategy

Common sense suggests that dealing with a problem directly by using problem-focused coping should be associated with better psychological and health outcomes, whereas emotion-focused coping should be associated with less favorable outcomes. This intuitively appealing prediction is complicated by two issues. First, some emotion-focused coping strategies, particularly active cognitive coping or creating positive meaning, have been rather consistently linked to favorable outcomes. Second, if the stressful situation one is facing is actually uncontrollable, why should trying to change the situation through problem-focused coping result in better outcomes? In the face of an uncontrollable situation, a more effective strategy might be emotion-focused.

This line of reasoning has led to the idea that certain types of coping are more effective for certain stressors. Specifically, problem-focused coping should be more effective in more controllable situations where the situation can actually be altered, whereas emotion-focused coping should be more effective in situations that cannot be changed. This connection between types of coping and types of situations has been referred to as the *coping–environment fit* or the *goodness-of-fit hypothesis*. Although there is some evidence supporting this hypothesis, the evidence is stronger for the benefits of problem-focused coping in controllable situations than for the benefits of emotion-focused coping in uncontrollable situations. Nonetheless, the goodness-of-fit hypothesis underscores the benefits of coping flexibility, that is, the individual's capacity to modify preferred coping strategies to accommodate to the demands of the situation.

Stress, Coping, and Positive Emotions

Coping theory and research have focused primarily on coping in relation to negative emotional states. But as psychologists have become increasingly interested in positive emotions, including positive emotional experiences during highly stressful life experiences, they

have found that certain coping strategies may help individuals maintain positive emotions during a prolonged stressful encounter. At first blush it may be difficult to imagine that people undergoing serious illness or loss can experience positive emotions. Yet studies of individuals with debilitating illnesses, people who have recently lost a loved one, and caregivers of chronically ill partners or family members reveal that despite the experience of painful negative emotions, positive emotions actually prevail, and certain coping strategies, such as trying to relax, appear to be more closely related to positive emotions than to negative emotions.

Creating Positive Meaning as a Way of Coping

Several studies have demonstrated that people who cope with serious illness and other major life challenges by creating positive meaning or by construing benefits from the threatening situation go on to adjust effectively and to have positive health outcomes. In one study, individuals who lost a family member in the previous 6 months and who discovered something positive from the loss—such as personal growth, a new life perspective, or the strengthening family bonds—were less distressed during the next year than people who did not cope by finding benefits. In another study, mothers of acutely ill newborns who found some benefit in the experience of their child's hospitalization experienced brighter mood that persisted over the subsequent 18 months. And the infants of mothers who found benefits achieved higher developmental test scores as toddlers. In a long-term study of men who had a first heart attack, those who found some benefit in the attack 7 weeks after it occurred were in better cardiac health 8 years later and were less likely to suffer a second heart attack. Among individuals who had survived a disaster involving extensive property damage and loss of life, individuals who, soon after the event, derived something positive from the incident, such as personal growth or increased closeness with others, were less likely to evidence post-traumatic stress disorder three years later. Finally, HIV-positive men who had lost a close friend or partner to AIDS and who now discovered positive meaning, such as experiencing life as more precious, showed a lower rate of AIDS-related mortality over the following 4 to 9 years. These studies are important because they link the creation of positive meaning and benefit finding in adversity with objective health markers. Because coping was measured in these studies long before the objective health outcome, it is reasonable to infer that how people cope with adversity may play a causal role in their subsequent health. It remains for investigators to distinguish positive meaning and benefit finding as a spontaneous response from the more intentional efforts most theorists view as the hallmark of coping.

Promising Interventions Based on Positive Meaning Coping

Psychologists have just begun to apply findings from the coping literature to create interventions designed to help people deal with threatening life events, particularly serious illness. One recent study demonstrated that certain interventions aimed at reducing stress among women with breast cancer led these women to find more benefits in their illness experience, which in turn led to a reduction in a biological marker of stress level. Another study found that when women with breast cancer who preferred to avoid thinking about their illness participated in a brief intervention in which they wrote about the benefits of their illness, they subsequently had fewer medical appointments for cancer-related health problems compared to women who simply wrote about the facts of their illness. Together, these studies point to the possibility of developing evidence-based psychological interventions that are grounded in coping theory and that can positively affect people's emotional well-being and physical health.

Howard Tennen

See also Control; Learned Helplessness; Self-Regulation; Stress and Coping

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CORRECTNESS OF PERSONALITY JUDGMENTS

See PERSONALITY JUDGMENTS, ACCURACY OF

CORRESPONDENCE BIAS

Definition

The term *correspondence bias* describes perceivers' tendency to infer stable personality characteristics from other people's behavior even when this behavior was caused by situational factors. For example, students may infer a high level of dispositional (trait) anxiety from a fellow student's nervous behavior during a class presentation, even though such nervous behavior may simply be the result of the anxiety-provoking situation. The correspondence bias is an important phenomenon in research on impression formation, as it can lead to systematic errors in first impressions of other individuals.

History

Research on the correspondence bias has its roots in the works of social psychologists Fritz Heider and Gustav Ichheiser in the 1950s and experienced a rapid increase in the 1970s. However, it wasn't until 1986 that the term *correspondence bias* was proposed by social psychologists Edward E. Jones and Daniel Gilbert. To date, the correspondence bias is considered one of the most robust findings (that means that many researchers have found it in many different experiments and contexts) in social psychological research.

Causes

One reason why the correspondence bias is such a robust phenomenon is that it has multiple causes. First, perceivers commit the correspondence bias when they do not believe that a given situational factor influences the observed behavior. In the example outlined earlier, some students in the audience may not believe that giving a class presentation is anxiety provoking. As such, they will infer that the presenter must be an anxious person, even though everyone might show the same level of behavioral anxiety in this situation. Many social psychologists assume that this cause is responsible for cultural differences in the correspondence bias, as individuals in East Asian cultures tend to attribute a greater impact to situational factors than do individuals in Western cultures.

Second, perceivers commit the correspondence bias when they do not think about the presence of situational factors. In this case, perceivers may actually believe that a given situational factor has a strong impact on people's behavior, but they may fail to consider this situational factor when they make inferences from situationally provoked behaviors. Such inferences are particularly likely when people are either not motivated to think about situational influences on other people's behavior or when they are too involved with other activities that keep their attention. For instance, in the earlier example, students may infer that their fellow student is highly anxious either when they are not motivated to think about the presenter's situation or when they are distracted by taking notes or listening to the person sitting next to them.

Third, perceivers often commit the correspondence bias when they apply their beliefs about situational influences in a manner that promotes rather than reduces the correspondence bias. This can be the case when beliefs about situational factors influence the interpretation of the observed behavior. For instance, people may believe that giving a presentation in front of scientists at a conference is more anxiety provoking than giving a lecture in front of students in class. This assumption, in turn, can lead perceivers to "see" more anxiety in the presenter's behavior when the presentation is in front of scientists at a conference than when it is in front of students in class. Importantly, this can be the case even when the presenter's behavior is exactly the same. As higher levels of perceived anxiety in the behavior usually result in higher levels of anxiety attributed to person (i.e., as a stable personality characteristic), such biases in the interpretation of behavior can promote the correspondence bias even when perceivers believe that situational factors have a strong impact on people's behavior and even when they are motivated and able to pay attention these factors.

Fourth, perceivers commit the correspondence bias when they believe that the behavior is highly informative for the actor's personality irrespective of whether or not it was provoked by the situation. Consistent with this notion, several studies have shown that people consider immoral behavior as highly informative for inferring immoral personality characteristics. In contrast, moral behavior is considered much less informative for inferring moral personality characteristics. For example, stealing an old woman's purse may be considered highly informative for inferring an immoral personality. However, helping an old woman across the street does not necessarily imply a moral character. In a similar vein, research has shown that people consider high-level performances as highly informative for

inferring high-ability levels, whereas low-level performances are considered much less informative for inferring low-ability levels. For instance, if a chess player beats the current world champion, people are likely to think of this person as a chess talent. However, if the same person loses a game against some other player, perceivers may think that this person simply had a bad day. Applied to the correspondence bias, such differences in the perceived informative value of other people's behavior can lead perceivers to deliberately reject situational factors as viable explanations for this behavior. Thus, they will infer stable personality characteristics from this behavior even when it was provoked by situational factors (e.g., that a person who stole an old woman's purse has an immoral personality, even when this person did not have anything to eat for several days).

Bertram Gawronski

See also Attributions; Attribution Theory; Correspondent Inference Theory; Fundamental Attribution Error

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CORRESPONDENT INFERENCE THEORY

Definition

A correspondent inference, sometimes also called a correspondent trait inference, is a judgment that a person's personality matches or corresponds to his or her behavior. For example, if we notice that Taliyah is behaving in a friendly manner and we infer that she has a friendly personality, we have made, or drawn, a correspondent inference. Or, if we notice that Carl is behaving in an aggressive manner and we conclude that he is an aggressive sort of person, we have drawn a correspondent inference. Sometimes it is reasonable to infer that people's personalities correspond to their behavior and sometimes it is not reasonable. *Correspondent inference theory* outlines when it is appropriate to infer that a person's personality corresponds to his or her behavior.

Background

Correspondent inference theory was developed by E. E. Jones (often called Ned Jones) and his colleagues. It falls into the domain of social psychology known as *attribution theory,* which is the study of judgments that people draw from behavior. Correspondent inference theory has been revised over the years, but the original formulation of the theory was published by Jones and Keith Davis in 1965. The 1960s through most of the 1970s was a period of time in social psychology when logic and rationality were emphasized. As such, it is not surprising that correspondent inference theory has a very logical flavor. Jones and Daniel McGillis later said that the theory described a rational model for how correspondent inferences could be drawn but did not necessarily describe how people actually draw correspondent inferences.

Explanation of the Theory

According to correspondent inference theory, two factors are important to consider in determining when it is appropriate to infer that a person's personality corresponds to his or her behavior. One, if the person's behavior is what most people would be expected to do in that situation, then it is not reasonable to infer that the person's personality corresponds to his or her behavior. This is the same as Harold Kelley's discounting principle, which suggests that we should not consider a person's behavior to be informative about personality when the situation would cause most people to behave that way. For example, suppose you turn on the television and a game show is on. The contestant answers a question and wins a new BMW Mini Cooper. She smiles, jumps up and down, and looks very happy. Would you infer that because she looks really happy she must have a happy personality? Obviously not. Most people, whether they have happy personalities or not, would behave in a happy manner after winning a new car. So, when people behave just how we would expect most people to behave in that situation, correspondent inference theory suggests that we should not infer that personality corresponds to behavior.

Two, if it is not clear what trait the behavior suggests, then it is also not reasonable to draw a correspondent inference. For example, suppose the

contestant goes on to win a $650 mountain bike, a laptop computer, $25,000 in cash, and a Caribbean cruise. Mysteriously, the contestant tells the host that she will not go on the cruise. That is probably not how most people would behave, so it would be reasonable to infer something. But, it is not clear what trait to infer. Is the contestant afraid of the ocean? Does the contestant not like hot weather? Could there be some medical reason? Family? School? Work? So, even if the person's behavior is not expected in that situation, correspondent inference theory suggests that it is not reasonable to draw a correspondent inference if we do not know what trait to infer. However, when people do not behave as most people would in a certain situation, and when it is clear what inference to draw, correspondent inference theory suggests that we should infer that personality corresponds to behavior. For example, suppose at a party you see a person named Stan. You notice that Stan easily meets new people, tells jokes, seems very comfortable in interpersonal situations, and generally behaves in an outgoing manner. Not everyone behaves this way, and it is clear what trait to infer. Therefore, correspondent inference theory suggests that we should infer that Stan's personality corresponds to his behavior. Stan probably has an outgoing, sociable, extraverted personality.

Evidence

There is some evidence consistent with correspondent inference theory. However, what has captured the attention of social psychologists is the fact that people often deviate from the theory. For example, although people recognize to some degree that when a situation tends to make people behave a certain way, that behavior is not very informative about personality, people still tend to infer that personality corresponds somewhat to behavior. So, if people see a contestant behave in a happy manner after winning a car, they might conclude that the contestant has a somewhat happy personality, even though they know that winning a car tends to make people happy. This tendency to infer that personality corresponds to behavior even when the situation seems to explain the behavior is called the *correspondence bias*. A good example of the correspondence bias is the tendency to infer that the personalities of actors and actresses correspond to the roles they play. Even though we know that Arnold Schwarzenegger is playing a role that calls for him to behave aggressively, we still might infer that he is a somewhat aggressive person.

Importance and Implications

Correspondent inference theory helped to launch the study of how people draw inferences from behavior. We often draw inferences about other people, such as students, professors, coworkers, neighbors, salespeople, politicians, and friends, based on their behavior. The inferences we draw can affect our safety, our future friendships, whom we might date or marry, whether we choose to help someone, whether we might choose a particular college or a particular job, and many other important decisions.

Doug Krull

See also Attributions; Attribution Theory; Correspondence Bias; Discounting, in Attribution

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COUNTERFACTUAL THINKING

Definition

Counterfactual thoughts focus on how the past might have been, or the present could be, different. These thoughts are usually triggered by negative events that block one's goals and desires. Counterfactual thoughts have a variety of effects on emotions, beliefs, and behavior, with regret being the most common resulting emotion.

Counterfactual means, literally, contrary to the facts. Sometimes counterfactuals revolve around how the present could be different ("I could be at the movies instead of studying for this exam"). More frequent, however, are counterfactual thoughts of what might have been, of what could have happened had some detail, or action, or outcome been different in the past. Whenever we say "if only" or "almost," or use words like "could," "would," or "should," we may be expressing a counterfactual thought (If only I were taller; I almost won that hand, etc.). Sometimes counterfactuals are used as an argument in a speech ("If Kennedy had decided to attack Cuba during the Cuban missile crisis, it would have ended in nuclear war") or to speculate or evaluate ("What if the 9/11 terrorists had been stopped by security guards at the airport?").

Background and History

Philosophers throughout the 20th century have been fascinated by counterfactuals because of what they say about logic and the nature, origin, and limits of human knowledge. Psychological research on counterfactuals began in the early 1980s with the realization that such thoughts are crucial to how people understand the past, predict the future, and come to understand the flow of events in their lives. Sometimes counterfactual thoughts are painful and even debilitating, such as when a person thinks, after a tragic accident, about how he or she should have told his or her best friend to wear a seat belt. In such cases, the counterfactual invites self-blame, which can make the anguish of a bad situation even worse. For this reason, researchers have been particularly interested in how counterfactual thinking is related to coping, depression, and anxiety.

Researchers distinguish between two main types of counterfactuals. *Upward counterfactuals* are thoughts as to how a situation might have turned out better. For example, a driver who causes a minor car accident might think: "If only I had swerved sooner, I could have avoided the accident." In contrast, *downward counterfactuals* spell out the way a situation might have turned out worse; that is, the same driver could think: "If I had been driving faster, I might now be dead." Upward counterfactuals seem to be the most common in everyday life.

Characteristics of Counterfactual Thinking

Three types of circumstances make counterfactual thinking likely. First, the most common trigger for counterfactual thoughts is negative emotion or a problematic situation. When people feel bad about a negative outcome, they often ruminate about how that outcome could have been avoided; thus, counterfactual thoughts are more common after defeats than victories, failures than successes, and penalties than rewards. Second, counterfactual thoughts are more likely after a "near miss" or an event that almost occurred, because when something almost happens, it seems to invite speculation about alternatives. For example, missing a plane by 2 minutes is likely to spark more thoughts on how one might have caught the plane as compared to missing a plane by a full two2 hours. Third, people also think in "If only . . ." terms when they are surprised by an outcome, as when an unexpected result goes against what the person had assumed would

happen, thereby drawing attention and causing reflection as to why the outcome occurred.

There are good reasons why negative feelings, near misses, and unexpected outcomes trigger counterfactuals, because in these situations, counterfactuals can be useful for guiding future behavior. When people feel bad about something, this often tells them the situation needs attention. If counterfactuals include information that makes it easier for people to tackle a problem, they might be better prepared in the future. For example, thinking "If only I had studied harder . . ." after a failed exam helps a person concentrate on studying so as to perform better on future exams. Similarly, focusing on near misses rather than far misses is likely to lead to success in the future because only a small change in behavior should be effective. Finally, by definition, unexpected outcomes indicate a person did not make an accurate prediction about a situation.

Counterfactual thinking appears in children at a very young age, almost as soon as they begin to speak. Developmental psychologists believe that because counterfactual thinking is so closely related to goals, children start to think about alternative courses of action as they become aware of their own wants and desires. Counterfactual thinking also seems to transcend culture. A controversy in the early 1980s centered on whether native Chinese speakers are able to reason counterfactually, given that their language lacks the specific word phrases that indicate "if only." After some false conclusions were clarified with new research, psychologists had, by the late 1980s, concluded that the ability to imagine alternatives to the past is common to all people, regardless of language or upbringing.

Psychological Consequences

Counterfactual thoughts spell out what people think caused an outcome. For example, the thought "If I had not eaten so many potato chips, I wouldn't feel ill right now" implies eating too many potato chips caused the person to feel sick. Of course, these counterfactuals may be inaccurate (flu might be the real cause), yet counterfactuals that spring spontaneously to mind have the characteristic of feeling "right." Many of the consequences of counterfactual thinking that have been studied—for example, a bias toward blaming victims for their own misfortune—can be traced to the inferences regarding causation that spring from counterfactuals.

Counterfactual thoughts may also change how positive or negative an obtained outcome feels. This is

because people automatically compare what happened with what might have happened and note the discrepancy between the two. Whereas upward counterfactuals make actual outcomes feel worse (by contrast), downward counterfactuals tend to make outcomes seem more favorable. For example, after receiving a "B" on an exam, thoughts of how one might instead have gotten an "A" (i.e., an upward counterfactual) makes the "B" seem less satisfying. On the other hand, thoughts about how one might have gotten a "C" instead of the "B" (downward counterfactual) make the "B" seem a bit more satisfying. Regret is the specific emotional experience that results from an upward counterfactual that focuses on one's own personal actions or decisions, and a fair amount of research has examined how regret is implicated in biased decision making. This work is part of an increasing awareness on the part of economists that emotional factors are essential to understanding consumer behavior.

Counterfactual thoughts can also increase how much control people think they have over events. When people believe an outcome would have been possible if only they had acted a certain way, events seem more under their personal control. A variety of research has pointed out how the feeling of being in control over life's events brings health benefits, and so the effect of counterfactuals on perceived control can be counted as another positive aspect of these types of thoughts.

Because counterfactual thoughts influence emotions, storytellers often use counterfactuals to evoke certain feelings in their audience. "If only he had thought to grab the gold before he jumped!" The cinematic "close-call" is effective because it evokes counterfactual thinking and its emotional offshoots, such as relief or regret. As plot unfolds, forks in the road, surprising twists, and the overall recognition of multiple possibilities breathe life into the story. Plot devices that reveal palpable downward alternatives that nearly happened (nearly fell into a pit of snakes, almost was eaten by a shark) create dramatic tension and then relief. A burgeoning genre of popular fiction is called "alternate history," and novels in this tradition tell an entire story inside a world that might have been (e.g., If the South had won the Civil War; If Nazi Germany had won World War II). Such stories reveal underappreciated aspects of reality that become more obvious through the juxtaposition with a vivid alternative to reality.

Counterfactual thinking is an essential component of effective social functioning. Geared mainly toward regulation of ongoing behavior, they also make us think more, inspiring further creative supposition. The capacity of counterfactual thinking to launch us into further reveries of thought is one of several reasons why counterfactual stories are so enchanting—they encourage our minds to roam where they otherwise would not have gone.

Florian Fessel
Neal J. Roese

See also Mental Control; Regret

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COUNTERREGULATION OF EATING

Definition

Counterregulation of eating refers to a situation in which an individual eats more after having eaten something previously than after having eaten nothing at all. This pattern of intake runs contrary to the regulation (or compensatory, reduced eating) that we would normally expect and thus is referred to as counterregulation.

History and Background

As with many living systems, our food consumption is regulated, in that when we take in too few calories, we experience hunger, which tends to make us eat to restore the caloric deficiency; and when we ingest too many calories, we tend to feel full and cut back on our food intake. Sometimes it seems that eating is not very well regulated, because overindulgence does not always lead to compensatory undereating. Still, the debate is usually about exactly how well regulated eating is, with some researchers emphasizing the power of regulatory mechanisms and others emphasizing their weakness.

Stanley Schachter suggested, decades ago, that eating was more strongly regulated for normal-weight people than for overweight people. He found that if people were given a certain amount to eat, and then allowed to continue eating, normal weight people would continue eating in inverse proportion to how much they initially ate (normal regulation), whereas overweight people would eat the same amount regardless of how much they initially ate (lack of regulation). This lack of regulation, Schachter argued, helped to explain how overweight people had become overweight.

Studies on dieters (or restrained eaters) and nondieters found that nondieters tended to show normal regulation. When preloaded with (i.e., forced to consume) either zero, one, or two milk shakes, and then given free access to ice cream, nondieters ate ice cream in inverse proportion to the size of the preload. That is, they ate the least after having a two–milk shake preload and they ate the most after having a zero–milk shake preload. Dieters, on the other hand, did not display normal regulation; in fact, they did not even display an absence of regulation. Rather, they displayed counterregulation, eating more ice cream after a milk shake preload than after no preload (zero milk shakes).

Interpretations and Complexities of Counterregulation

The counterregulation effect was interpreted as follows: Dieters are concerned not so much about maintaining an appropriate (or regulated) caloric intake as they are about maintaining their diets, which often involve significant undereating relative to physiological requirements. When they receive no (zero) preload, their diet remains intact; they can achieve their diet goals by continuing to eat sparingly, and so they eat only a minimal amount of freely available ice cream. If, however, the dieter is forced to consume a rich milk shake, then the diet is "blown," and the dieter concludes that there is no point in further restriction. If the diet cannot be maintained, one might as well indulge oneself in the normally forbidden ice cream. This has been called "the what-the-hell effect."

There are several elements of this effect worth noting. First, what exactly does it take to blow a diet? Is it the number of calories in the milk shake that exceeds a certain quota? The fact that diets are often organized according to a daily caloric quota means that a single rich milk shake may well be enough to exceed the quota, making further dieting seem useless. Of course,

it is quite irrational to think this way. If you eat a rich milk shake and are serious about your diet, it doesn't make sense to wait until tomorrow to begin eating sensibly; you should start right away and minimize the damage. Dieters, however, do not seem to think particularly rationally about calories. Another possibility is that instead of the milk shakes' excessive calories blowing the diet, it is the fact that milk shakes in any quantity represent a forbidden food, and eating a forbidden food blows the diet, leading to disinhibited eating. In the study mentioned in the previous section, the effect of a one–milk shake preload was just about as strong as was the effect of a two–milk shake preload. It might be that the number of calories in even one milk shake was excessive, but it also might be that any amount of milk shake could have blown the diet. In fact, a preload of 600 calories of a permitted food (e.g., salad) will not blow a diet, whereas 600 calories of a forbidden food will blow a diet.

A preload does not actually have to be rich, forbidden, or highly caloric to trigger counterregulatory overindulgence; if dieters are misled into believing that the preload is sufficiently rich to blow the diet, then counterregulation may result. It all depends on how the dieter thinks about the preload and its effect on the diet. By the same token, if the dieter is convinced that he or she will be forced to consume a rich preload later in the day, so that the diet will be blown, then the dieter may overeat (counterregulate) in anticipation of this rich preload (actually, a postload).

Most speculation about the psychological dynamics of counterregulation focus on the dieter's interpretation of whether the preload will blow the diet and make further dieting (for that day) hopeless. Another interpretation is that a rich preload operates to produce overeating in dieters by upsetting them emotionally. As it is known that distress makes dieters eat more (and nondieters eat less), it is possible that the preload operates through this emotional channel.

Importance

The discovery of counterregulation of eating has changed the way that researchers think about dieters and dieting. The fact that dieters will eat more after a rich preload than after no preload highlights the fact that dieters are normally under self-imposed pressure to suppress their eating but that this pressure may be released under certain circumstances, resulting in occasional eating binges. The discovery of counterregulation has solidified the understanding of the dieter as

someone who alternates between restraint and indulgence. If dieters are to avoid damaging binges, they must take care to avoid consuming anything that threatens the integrity of their diet or learn to regard supposedly forbidden foods as less threatening.

C. Peter Herman

See also Binge Eating; Self-Regulation

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CREATIVITY

Definition

Creativity can be defined three major ways. First, creativity can be viewed as a concrete *product* that satisfies two specifications: (1) originality or novelty, and (2) utility usefulness or adaptiveness. The first requirement excludes routine work that may be adaptive but habitual. The second separates creativity from the ideas of a psychotic; such ideas can be highly original but clearly maladaptive. The product may take many forms, such as a discovery, invention, painting, poem, song, design, or recipe. Second, creativity can be defined with respect to the cognitive *process* that generates creative products. This process may include intuition, imagination, incubation, free association, insight, heuristic search, and the like. Third, the concept can be defined relative to the creative *person* who has the capacity and the willingness to apply the process that yields the products. This personal disposition toward creativity may entail a set of cognitive abilities, motives, interests, values, and personality traits.

Social Psychology of Creativity

Whether creativity is viewed as product, process, or person, it is evident that there is nothing inherently social about creativity. It is most often viewed as an utterly individual phenomenon. As a consequence, for a considerable time social psychologists did not consider creativity to be a mainstream research area. Instead, most of the publications on the subject were conceived by investigators in cognitive, personality, educational, and applied psychology. This peripheral status notwithstanding, many aspects of creativity do feature a conspicuous social dimension. The social nature of creativity was first recognized by sociologists and cultural anthropologists, some of whom went so far as to argue that creativity was entirely a social event, thereby rendering individual psychology irrelevant. For example, the phenomenon of multiple discovery—where two or more scientists independently and sometimes simultaneously arrive at the same idea—was often cited as positive proof of this extreme position. Such episodes were said to reflect the causal impact of the sociocultural milieu, or zeitgeist. In any case, it is ironic that most of the early research on creativity was conducted either by non–social psychologists or by non–psychological social scientists. The middle, and potentially integrating perspective, was missing.

This entry illustrates the sociopsychological aspects of creativity by looking briefly at the following phenomena: the sociocultural milieu, group dynamics, social influence, interpersonal relationships, and personality.

Sociocultural Milieu

As noted earlier, many sociologists and cultural anthropologists have tended to view creativity as a sociocultural rather than individual phenomenon. This sociological reductionism is clearly invalid. After all, creativity almost invariably emerges out of individual minds. Nevertheless, it remains true that creativity often depends on the zeitgeist. That zeitgeist has two kinds of effects. First, it influences the amount of creativity that appears in a particular time and place. For example, certain sociocultural conditions favor tremendous spurts of creative activity, as those seen in the Golden Age of Greece or in Renaissance Italy. Second, the zeitgeist can affect the qualitative nature of that creativity—the type of creativity that is most favored. For instance, creativity takes a different form depending on whether the culture is individualistic or collectivistic in basic orientation. In an individualistic zeitgeist, originality or novelty tends to have greater weight than does utility or adaptiveness, whereas the reverse is true in a collectivistic zeitgeist. The effects

of individualistic versus collectivistic conditions tend to be long lasting. Such cultural values do not come and go very quickly. Yet other sociocultural effects are much more volatile or transient. That is, creativity can be influenced by momentary fluctuations in political, economic, social, or cultural events. For instance, scientific creativity is adversely affected by assassinations, coups d'état, military mutinies, and other forms of political anarchy. Of even greater interest are events that enhance the cultural heterogeneity or diversity of a society. These events include nationalistic revolts as well as the influx of alien ideas through immigration or foreign travel. Although these findings were based on analyses of archival data, the positive relation between cultural diversity and creativity has also been found in laboratory experiments on group creativity.

Another issue that falls under this heading concerns the relation between creativity and a person's sociocultural status, especially standing with respect to gender and ethnicity. For example, investigators have examined how opportunities for creative achievement among women and specific minorities are shaped by social norms and cultural values. These investigations provide the counterargument to those who may advocate biological explanations for group differences in creative behavior.

Group Dynamics

Popular culture often projects the image of the "lone genius," working away in isolation, whether in lab or studio, on some great scientific discovery or artistic creation. Yet this image is very misleading. A great deal of creativity, on the contrary, involves collaborations. This is most apparent in the sciences, where contributions are made by research teams within and among laboratories. Yet even in the arts, collaborations are not uncommon, especially in cinematic creativity. As a result, it is essential to understand how creativity operates in group settings. Social psychologists have investigated this problem three major ways. First, and most commonly, investigators have examined problem solving in experimental groups. A prime instance is the extensive literature on brainstorming. Second, some investigators have taken advantage of archival data to determine the factors that enhance or hinder group creativity. An example is research on social loafing that determines whether individuals working together are less creative than the same individuals working alone. Third, and least common, are field studies of actual group creativity in which the investigator analyzes member interactions. For instance, researchers have scrutinized the patterns of communications that characterize laboratories that generate high-impact findings.

Social Influence

Even when a creator is working as an individual rather than collaborating with other creators in a group, the person will often still be operating in a social context. That social environment can then influence the extent of creativity manifested by the individual. For example, a considerable amount of research has been conducted on the repercussions of rewards, evaluations, surveillance, and other circumstances. Much of this work has focused on the impact of intrinsic and extrinsic incentives for performing a task. Creativity usually seems to be more nurtured when a task is motivated by inherent enjoyment rather by some external motivation that has nothing to do with the specific task. Nonetheless, under certain conditions, extrinsic motivation can contribute to the enhancement of individual creativity. This benefit is particularly likely when the extrinsic incentives function as informational feedback rather than as the imposition of some external control.

In addition to affecting the amount of creativity a person displays, the social setting also can sway how much creativity is attributed to a particular product or person. After all, the attribution of creativity, like other kinds of attributions, represents a subjective judgment that is subject to various cues. Hence, some social psychologists have studied the information that determines whether a given individual or act is judged as being creative—information that may have only a very peripheral relation to creativity itself.

Interpersonal Relationships

Another social aspect involves the way the creative product, process, or person is contingent on identifiable patterns of interpersonal relationships. Most typically, creativity is promoted when a creator interacts with other creators. For instance, most creative scientists and artists belong to rich social networks with other scientists or artists. These networks may include collaborators, associates, correspondents, rivals, competitors, and even friends. The richer and more diverse the network is, the higher the creative productivity and longevity tend to be. In addition, the development of

creative potential very much depends on establishing a long-term relationship with a mentor, master, or role model. Just as models can serve to amplify a person's aggressive tendencies, so too can models help an individual fully realize his or her capacity for creativity. It is no accident that recipients of the Nobel Prize have a high probability of having studied under previous Nobel laureates.

Even though creative individuals are very involved in such professional relationships, their involvement in personal relationships is often much less pronounced. As a consequence, their rates of divorce are often somewhat higher than in the general population. This negative effect is especially conspicuous for creators in the arts, humanities, and social sciences.

Personality

Although not the main thrust of most sociopsychological research, some social psychologists are interested in how individual-difference variables amplify, moderate, or diminish the impact of social variables on personal behavior. Examples include individual differences regarding the Big Five personality traits (especially Extraversion); the achievement, affiliation, and power motives, authoritarianism, Machiavellianism, narcissism; the need for cognition; self-esteem; shyness; social anxiety; and Type A personality. Cross-sectional variation in creativity is no less important as a socially significant variable. In the first place, personal creativity exhibits positive or negative correlations with several variables of acknowledged consequence in social psychology (e.g., authoritarianism, extraversion, and Type A personality). Even more importantly, a creative disposition also directly modifies the influence of social context on individual thought, emotion, and action. For example, experimental research has shown that highly creative individuals are more resistant to conformity pressures. Creators thus display more independence than is typical of most participants in sociopsychological research. This autonomy is probably essential to innovative behavior.

Dean Keith Simonton

See also Brainstorming; Collectivistic Cultures; Group Dynamics; Intrinsic Motivation; Modeling of Behavior; Social Loafing

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CRITICAL SOCIAL PSYCHOLOGY

Definition

A central concern of critical social psychology is inequality and injustice in society. Research from this approach typically is politically motivated and aims to highlight and help end the oppression of minority or marginalized social groups. Critical social psychology also examines psychology for any ways it contributes to an unjust and undesirable social order. Another aspect of critical social psychology is it develops and endorses the use of qualitative methods in psychology. Qualitative methods use linguistic rather than statistical forms of analysis. The term *critical* has implications of negativity but in critical social psychology it refers to work that assesses common assumptions about psychology, to make positive changes.

Key Themes

Critical psychology draws attention to social factors impacting on people that are sometimes ignored in other approaches. That is, it emphasizes contextual influences shaping a person's experiences and behavior. Consider, for example, the case of work-related stress. A traditional psychologist might study individual differences in feelings of stress. A test can be developed to identify workers most prone to stress so they can undergo some kind of stress-management

training. Note that explaining a problem in terms of individuals leads to solutions that are focused on individuals. However, a critical social psychologist would take a different approach and consider the characteristics of the job, or of work in general, that lead to stress. If noise levels, for instance, are identified as a cause of stress, then employers can be urged to provide quieter working conditions.

Power is an important theme in critical social psychology. An aim of research is to identify and challenge ideas and practices that support discrimination against people on the basis of their ethnic background, age, gender, sexuality, disability, and so on. Feminism is an important influence on critical social psychology because it highlights that power relations in society are related to ways of thinking and behaving. Feminist psychologists, for example, have noted that in the 1970s masculine stereotypical traits (e.g., independent, active) were associated with adult mental health but feminine ones were not (e.g., dependent, passive). Important findings from feminist critical social psychology are that sex differences (e.g., in confidence) are typically interpreted as female deficits (i.e., low self-esteem) and that women's general lack of social status is typically explained by individual factors (e.g., a fear of success) rather than social ones (i.e., sex bias in employment practices).

The importance of language for shaping the ways people make sense and act in the world is a key idea. Language is understood as a primary basis for social life because it is largely through talk-in-interaction and writing that people conduct their lives. The ways language constructs different versions of the world is emphasized. Consider that a woman without children can be called *child-less* or *child-free;* how does the label used influence understanding about the woman? Why and who might use the term *terrorist* compared to the word *freedom fighter?* Note how different words refer to the same person but evaluate them in different ways.

Critique of Mainstream Psychology

Mainstream psychology typically assumes that researchers can be objective or completely independent of the subject they are studying. In contrast critical social psychology suggests research is never completely neutral. An individual researcher cannot be separated from the society they live in, so their research is influenced by social beliefs and values. There is considerable evidence of bias in what has been taken for granted about human psychology. For instance, in the case of intelligence tests, lower scores from other societies have been interpreted as indicating genetic inferiority rather than evidence of the cultural specificity of the tests. Another example is that up until the 1970s, psychological theories defined homosexuality largely as a mental disorder, whereas nowadays psychology offers theoretical and practical responses to prejudice and discrimination against lesbians and gay men.

A theoretical idea about people widespread in mainstream social psychology is that individuals are information processors. Stereotypes, including prejudiced ones, are understood as a natural consequence of all the information the human mind has to process and its limited cognitive capacities. Critical social psychology points out that an information processing model of prejudice is very individualistic in orientation and fails to explain why certain groups and not others have been victims of racist thinking. Another critique is that by suggesting prejudice is a natural and inevitable result of thought processes, a mainstream view fails to promote social change that will challenge racism, sexism, and so on.

The research methods favored by mainstream social psychology tend to be surveys and experiments where people's thoughts and behaviors are represented quantitatively by numerical scores. The problems associated with conventional quantitative methods have been criticized on several grounds. For example, the measures and categories of mainstream research overly simplify the complexity of human psychology and ignore important personal influences on responses. People behave differently at different times and places, yet mainstream research assumes a person's response in a survey or experiment is stable and lasting. In the case of experiments, participants are often deceived about the real purpose of the study, which is dishonest and disrespectful.

In contrast, critical social psychology promotes qualitative methods, such as observational and interview studies. A wide range of language-based data sources are used, including audio and video recordings of interactions, newspaper articles, or political speeches. Action research, in which the goal is social change for a particular group or community, is a characteristic approach. Aspects of critical work that

differentiate it from mainstream psychology is that it usually aims to emphasize the variation and complexity of human experience rather than discover simple rules of behavior; consider research participants within their social contexts instead of examining them in more controlled experimental settings, and challenge aspects of inequalities in society instead of producing scientific facts about thought and behavior.

Ann Weatherall

See also Discursive Psychology; Power; Stereotypes and Stereotyping; System Justification

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CROSS-LAGGED PANEL CORRELATION

Definition

A cross-lagged panel correlation refers to a study in which two variables are measured once and then again at a later time. By comparing the strength of the relationship between each variable at the first point in time with the other variable at the second point in time, the researcher can determine which variable is the cause and which the effect. A cross-lagged panel correlation provides a way of drawing tentative causal conclusions from a study in which none of the variables is manipulated.

Example

Researchers have used cross-lagged panel correlations to determine whether watching televised violence causes aggression or aggression causes people to prefer viewing television violence. To do so, the researchers measured both the preferred amount of violent television viewed and aggressive behavior of third graders. Ten years later, they again measured the preferred amount of violent television viewed and the aggression of those same people.

Interpreting a Cross-Lagged Panel Correlation

The key to interpreting the results of a cross-lagged panel correlation is to remember that the cause has to come before the effect in time. The researcher can determine which variable influences the other because the variables are measured at each of two different points in time. If both variables are measured simultaneously and only once, causal conclusions cannot be drawn. In the case of a researcher studying television violence and aggression, the researcher cannot be sure whether television violence causes children to become more aggressive, aggressive kids choose to watch more violent shows, or some other factor is causing both aggressive behavior and the viewing of television violence.

To interpret the results of a cross-lagged panel correlation, compare the strength of the relationship between variable A at time 1 and variable B at time 2 with the strength of the relationship between variable B at time 1 and variable A at time 2. In the television violence and aggression example, this means comparing the strength of the relationship between third graders' aggressiveness and their television viewing preferences 10 years later with the strength of the relationship between third graders' television viewing preferences and their aggressiveness 10 years later.

If aggressiveness at the first point in time (when the participants were third graders) is related to the amount of violent television viewed at the second point in time (10 years later), but the viewing of violent television in third graders is unrelated to aggressiveness 10 years later, then aggressiveness causes people to prefer watching television violence. If instead television viewing at the first point in time is related to aggressiveness at the second point in time and aggressiveness in third graders is unrelated to their viewing habits 10 years later, then television violence causes aggression.

This particular study was conducted by Leonard D. Eron and his colleagues and published in 1972. They concluded that watching television violence causes aggression; aggression does not cause people to watch more violent television.

Sal Meyers

See also Experimentation; Research Methods

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CROWDING

Definition

Environmental psychologists study how human behavior and the physical environment interrelate. Decision making and behavior make an impact on environmental quality—did you walk, bike, drive, or use public transit to get to school today? The physical environment also affects behavior. Crowding illustrates how the physical environment can affect human behavior.

Psychologists distinguish between *crowding*, a psychological construct wherein the amount of space available is less than desired, and purely physical indices of physical space such as *density*. Density is typically indexed as people per room or people per square foot. More external density measures like people per acre are less relevant for human well-being. The more immediate experience of the close presence of others, particularly in living and working spaces, matters most. The distinction between psychological and physical perspectives on crowding explains why a high-density social event (e.g., party) is fun, whereas a high-density living or work space can be negative. When you need more space and can't have it, you experience crowding.

The most common reaction to crowding is stress, particularly over time and in an important space like home. For example when it is crowded, people typically have negative feelings such as anxiety and frustration about restricted behavioral options. Our choices of what, where, and when we do things are constrained. If these restrictions are experienced repeatedly, crowding can also lead to feelings of helplessness wherein we start to question our own ability to effectively manage the environment. Studies in India and in the United States have found that children and adolescents who live in more crowded homes, independent of socioeconomic status, are less likely to persist on challenging puzzles, giving up sooner than those living under uncrowded conditions.

When people experience crowding, their social interactions change. Two results are common: They withdraw from others, creating more psychological space when physical space is limited, and they become more irritable and potentially aggressive. The natural tendency to cope with crowding by social withdrawal may become a characteristic way of interacting with others. For example, one study of college roommates found that when they initially moved in together, the number of people per room in their apartment was unrelated to how much social support they perceived from their housemates. But after 6 months of living together, more crowded undergraduates felt more withdrawn and less social support from their roommates. When these college students were brought into a laboratory to interact with a stranger, they exhibited this same more socially withdrawn style. Furthermore, when the stranger (who was really a confederate working with the experimenter) offered them some emotional support during a stressful experience, the higher the density of the apartment the student lived in, the less likely they were to accept the stranger's offer of support. Thus, even when in an uncrowded situation, students who had adapted to living under more crowded conditions were more withdrawn and less receptive to offers of social support. Parents in more crowded homes are also less responsive to their children.

One of the ways researchers mark whether a situation is stressful or not is to use physiological measures like blood pressure or stress hormones (e.g., cortisol, epinephrine). If crowding is a stressor, then it should affect these physiological measures. Both laboratory research, usually with college students, and community studies provide evidence that crowding can cause physiological stress. If you carefully observe yourself or others who are in a crowded situation, you can also see nonverbal indicators of stress. For example when it's crowded, people will fidget; adjust their clothes, hair, jewelry, and so on; and often avoid eye contact. Next time you are in a very crowded setting (e.g., elevator, train), see if you notice a link between how crowded the setting is and how much these behaviors occur.

Will crowding make you seriously disturbed or damage your health? Will it ruin your grades and undermine your college experience because you are in a dorm room that isn't big enough? No, but it will probably lead to more distress and more social

withdrawal, especially from your roommates. If you have an exam to study for or a difficult, challenging task, crowding could have some negative effects. Laboratory experiments show that crowding impairs complex, but not simple, task performance. If the task is demanding, requiring a lot of effort and attention to multiple components, it is likely to suffer under crowded conditions.

What about individual differences in sensitivity to crowding—does everyone respond the same way to a crowded situation? If you are studying and your friend is talking with his friends, crowding is likely to have drastically different effects on each of you. Men may react more physiologically to crowding, their blood pressure and stress hormones elevating more, whereas women (at least initially) try to get along with those around them when it's crowded. However, over time, if these attempts are unsuccessful, women may actually react more negatively because their attempts at affiliation prove futile. One study of tripled college dorm rooms designed for two people found more psychological distress in women than in men, but it took more time for this to occur in the females. The tripled-up men, but not the women, evidenced elevated stress hormones. How about culture or ethnicity? Some groups of people (e.g., Asian, Latin Americans) do indeed perceive high-density situations as less crowded than do others (e.g., White and Black North Americans). But their negative reactions to crowding are similar across cultures. The threshold to experience crowding may be different, but once it happens, their reactions are parallel to one another.

One final topic worth brief mention is the potential role of architecture and design in crowding. Space is not simply area or volume. For example, in a study of elementary school children, the impacts of residential density were related to the type of housing. Children living in larger, multifamily residences, independently of social class, reacted more negatively to higher-density living spaces than did children living in single-family homes. There is also evidence that having some space in your home where you can at least temporally be alone (refuge) can offset some of the negative impacts of crowding. Crowding is but one example of the many ways in which human behavior and the physical environment can influence one another.

Gary W. Evans

See also Control; Personal Space; Stress and Coping

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CULTURAL ANIMAL

Definition

Cultural animal is a term used to refer to human beings. The core idea is that human beings differ from other animals in the extent to which they create, sustain, and participate in culture.

There are hundreds of definitions of culture. However, there are several main themes in understanding what culture is. Culture refers to learned behavior rather than innate predispositions. Culture is not created or owned by a specific person but rather requires a group, usually a large group. (You cannot have culture by yourself.) Crucially, a culture must reproduce itself, so it includes some means by which it is passed down from one generation to another. Culture consists of shared ideas and shared ways of doing things. Thus, American culture includes shared values such as freedom and democracy, and it also includes ways of doing things, such as how to get a job, get food, vote, and pay taxes. Cultures generally include organized frameworks that allow people to live together. For that to happen, cultures must find ways to satisfy basic human needs, such as for food, water, shelter, and safety.

Thus, to call humans *cultural animals* is to say that human beings almost always prefer to live in groups that have these properties. They are organized. They collect and share information, including passing on what they have learned to the next generation. They rely on the group to help them get what they need to live. Through this cooperation and learning, members of the group come to hold common beliefs and values and to do things in similar ways.

Context and Importance

Social psychology has developed over the decades by studying one slice of behavior at a time. Periodically, its thinkers wonder how to put all these little bits of information together to construct a broad, coherent understanding of human nature, which is to say, what kind of creatures human beings are. This sort of question lurks in the background of nearly all the work that seeks to understand people: Are they good or evil? Are they products of their environment? Do they have free will? What do they mainly want? How does the human mind work, and how did it get to be that way?

Social psychologists have long responded to questions about human nature by saying that humans are social animals. The "social animal" phrase was coined by Aristotle and has been preserved in an often-updated book by Eliot Aronson. Its central idea is that people are, by nature, motivated to be with other people, including forming relationships with them, working with them, and playing with them.

The cultural animal view takes a large step beyond the social animal view. It agrees that humans are social animals, but in that respect they are not all that different from a great many other social animals—from ants and birds to wolves and zebras. Hence, if we want to understand what is special about human beings, indeed understand what makes us human, we must go beyond the social animal idea, correct though it is.

Culture is a better way of being social. It has made possible the great achievements and progress that humankind has seen across its history. Social animals may work together toward common goals and copy each other's successful behaviors, but without a culture to store information and transmit it to others, every generation starts over from the beginning. Without culture, each new generation of human beings would have to start over too, such as figuring out how to find food and make fire. Culture allows each new generation to inherit what its parents knew and then, perhaps, to add to that stock of knowledge. Cooking, medical technology, automobile travel, electrical appliances, and indoor plumbing all reflect the accumulation of knowledge across generations and hence the benefits of culture.

Evidence

The theory that humans are cultural animals is not something that can be easily proven or disproved. It is not a conclusion from a laboratory study. Rather, it is a broad theory that can be used to explain many aspects of human behavior. The usefulness of such grand theories is found not in whether they can be tested experimentally but rather in how many different ideas and observations they can make sense of together and how few seem to contradict them. The facts that people everywhere live in groups, use language, socialize their children, and share information are consistent with the view of humans as cultural animals. Those observations fit but do not prove that humans are cultural animals. Still, if the opposite patterns were true (e.g., if people generally refused to share information or cooperate, learned language only reluctantly and under pressure, and left their children to fend for themselves), then it would be implausible to say people are cultural animals.

Implications

Researchers who study animals say that many of them have the beginnings of culture, such as if they learn how to get food in a certain way and then their children copy them. However, these are tiny bits and beginnings, whereas humans rely on culture in almost everything they do. For example, most animals get their own food directly from nature and make or find their own nests or other shelters, whereas most likely you have hardly ever hunted your own food, sewn your own clothes, or built your home with your own hands.

The cultural animal view holds that what makes people unique, and what makes us human, can be found in the special traits that make culture possible. These start with the capacity to use language. They include the complex ways people think and make decisions and the way people understand each other's emotions and goals.

A long tradition in Western thought has focused on the conflict between the individual and society, sometimes viewing the individual as a victim of powerful, impersonal social forces and proposing that people would be better off if they could escape from society. The cultural animal view, in contrast, holds that humans are designed, by nature, precisely to live and work in a cultural society. Although cultures are far from perfect and can be quite oppressive, the option of living alone in the forest is not to be taken seriously for the bulk of humanity, because human nature is far better suited to cultural life. We must strive to make society better rather than to escape from it. Despite its shortcomings and

problems, culture has been a remarkable success when judged in biological terms: Unlike the other great apes, humans have multiplied, spread out to live in a wide assortment of lands and climates, and accumulated the knowledge of how to enable individuals to live two or three times as long as their ancestors.

Roy F. Baumeister

See also Culture; Evolutionary Psychology; Social Learning

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CULTURAL DIFFERENCES

Definition

Cultural groups can differ widely in their beliefs about what is true, good, and efficient. The study of cultural differences combines perspectives in psychology and anthropology to understand a society's signature pattern of beliefs, behavior, and social institutions and how these patterns compare and contrast to those of other cultural groups.

Cultural differences appear both between and within societies, for example, between Canadians and Japanese, and within the United States between Anglos and Latinos. Descriptions of cultural differences are made in context to the many similarities shared across human groups. Although a variety of attributes differ between cultures, there are also many similarities that exist across human societies. Moreover, even where there are differences between cultural groups, individual differences mean that not every person within a particular culture will have beliefs or exhibit behaviors that resemble predominant patterns in their society.

Context and Focus

Cultures can contrast in many ways, some more obvious and observable than others. For example, cultures differ in language, dress (kilt, kimono, or three-piece suit), and social greetings (kiss, bow, handshake). From a psychological perspective, cultures also differ in more subtle, yet important ways, such as how they explain why someone behaved the way they did, what they notice and remember from social interactions, or whether they try to "fit in" versus "stand out" in their peer group. For example, in the United States and Australia, individuals tend to define themselves in terms of their unique personality characteristics and individual attributes (e.g., outgoing, optimistic, ambitious), whereas in Korea and Mexico, individuals are more likely to define themselves in terms of their connection to others or membership in social groups (e.g., sister, friend, student). In Chinese cultures, building deep personal relationships is considered more effective than contracts as a way to establish trust in a business relationship. Yet, in the United States, contracts are valued more than personal assurances. Psychological research on cultural differences focuses on such subtle differences and unexpected similarities in beliefs and behavior.

Background and History

Humans have long been interested in cultural differences. The first written accounts of cultural diversity appear as far back as the 4th century B.C.E. in Herodotus' description of the unique beliefs and customs among the different cultural groups that traded along the shores of the Black Sea. However, it was not until around the 19th century C.E. that scholars began to conduct systematic studies of unique cultural beliefs and practices, such as Alexis de Tocqueville's writings about the unique aspects of early American culture and Max Weber's analysis of how religious ideologies developed in Northern Europe created cultural differences in beliefs about the meaning of work. About 100 years later, the field of cultural anthropology emerged with an exclusive focus on understanding the nature of cultural differences around the world. Today, psychological research has brought new understanding about the nature of cultural differences and similarities by combining an anthropological focus on culture with sophisticated experimental methods developed in social and cognitive psychology. This area of research within social psychology is referred to as *cultural psychology*.

Before psychologists began to study culture, it was often assumed that knowledge gained from psychological research conducted within one culture applied to all humans. This assumption about the universality of human psychology was challenged when researchers then tried to replicate studies in other cultures and found very different results for a number of important

phenomena. For example, psychological experiments showing that people tend to exert less effort when working in a group versus alone showed an opposite pattern in East Asian societies. There, people tend to exert less effort when working alone compared to when working in a group. Further, studies conducted in India, and later in Japan, showed an opposite pattern to earlier research conducted in the United States—that people tend to overestimate the influence of personality and underestimate the influence of situational factors on behavior.

Evidence

Three broad types of evidence have been used to demonstrate cultural differences. First, in-depth studies of single cultures have found a variety of culturally unique ways people think about and engage in interpersonal relations. For example, within Mexico, interpersonal relations are characterized by a sincere emphasis on proactively creating interpersonal harmony (i.e., *simpatía*) even with strangers. In Japan and Korea, people also exhibit a heightened focus on interpersonal harmony. However, unlike Mexicans, the concern for harmony among the Japanese is more focused on relationships with one's ingroup (e.g., friends, family), and it is sustained through a more passive, "don't rock the boat" strategy. In the United States, the concern for interpersonal harmony differs for casual, social relationships versus work relationships. While it is common in the United States for individuals to create a pleasant and positive social dynamic across most settings, they show a tendency to attend less to interpersonal relations and overall level of harmony while in work settings. To provide evidence of these different relational styles across cultures, researchers have examined, for example, how members of these cultures convey information that could be embarrassing or disappointing to others. When talking with friends or social acquaintances, Americans and Koreans use indirect, subtle cues to avoid embarrassing others when conveying such bad news. However, when talking with someone in a work setting, Americans believe it is more appropriate to be direct even if the message contains bad news for the listener. In contrast, Koreans believe that at work it is even more important to use subtle communication that will convey the message but also save face for the listener. Thus, cultural differences in attention to interpersonal concerns can be more pronounced in some settings (e.g., work) than in other settings (e.g., party).

A second type of evidence comes from multinational surveys that have measured people's values in every major continent, across hundreds of societies. In these survey studies, people are asked to rate how much they agree with statements like "It is important to be free to make one's own decisions" and "People are defined by their connection to their social group." This type of research shows that cultural groups fluctuate significantly in how much they value individual autonomy versus obligations to follow traditions; equality versus respect for differences in status; competition versus cooperation; and distinctions between ingroups and outgroups.

A third and compelling type of evidence for cultural differences is provided by cross-cultural experiments on the way people perceive and react to their social environment. When experimental studies present individuals from different cultures with the exact same situation, for example, a video of two people talking with each other during a workgroup meeting, very different interpretations and responses can emerge. In many Latin American cultures, people notice and remember how hard the individuals in the video are working and how well or poorly they are getting along interpersonally. In North American cultures, people tend to also notice how hard people are working but notice much less information about the level of interpersonal rapport.

There is evidence that cultural differences are the result of people's experience living and participating in different sociocultural environments. Bicultural groups, for example, Chinese Canadians or Mexican Americans, often exhibit psychological patterns that are somewhere in between those found in their mother country (e.g., China or Mexico) and those in their new adopted culture (e.g., Canada or the United States). Experimental evidence also shows (in certain domains) significant cultural differences between different regions within a society, for example, between individuals from the northern versus southern United States. In relative terms, an insult to one's honor is a fleeting annoyance for northerners, but a more serious affront to southerners, and although violence is generally no more tolerated among southerners than northerners, it is more likely to be considered justified when honor is at stake.

Implications

Cultural differences have implications for virtually all areas of psychology. For example, cultural differences have been found in child-rearing practices

(developmental psychology), the range of personality traits in a society (personality psychology), how people process information (cognitive psychology), effective treatments for mental disorders (clinical psychology), teacher–student interactions (educational psychology), motivational incentives important to workers (organizational psychology), and interpersonal styles (social psychology). Research in each of these areas provides knowledge about how cultures can differ and when they are likely to be more similar than different.

The existence of cultural differences has significant implications for people's daily lives, whether at school, work, or any other setting in which people from diverse cultural backgrounds interact. It is important to recognize that diversity can mean much more than differences in ethnicity, race, or nationality; cultural diversity also includes sometimes subtle, yet important basic differences in the assumptions, beliefs, perceptions, and behavior that people from different cultures use to navigate their social world.

Jeffrey Sanchez-Burks

See also Collectivistic Cultures; Culture; Culture of Honor; Individual Differences

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CULTURE

Definition

Culture can be generally defined as an interrelated set of values, tools, and practices that is shared among a group of people who possess a common social identity. More simply, culture is the sum total of our worldviews or of our ways of living. Cultural worldviews affect a range of psychological processes, including perceptual, cognitive, personality, and social processes, but are thought to most strongly influence social psychological processes.

Background and History

For much of the 20th century, there was scant research and publishing on the subject of culture and behavior in the general psychological literature. Some of the more notable exceptions are seen in the work of Wilhelm Wundt, Lev Vygotsky, and Frederic Bartlett. One influential finding on cultural effects was made by Marshall Segall in the 1960s, who, along with his colleagues, found that Africans and Westerners varied in their susceptibility to certain visual illusions, theoretically because of their differential exposure to built environments and wide vistas. Apart from such isolated cases of research, however, much of the early academic study of the behavioral effects of culture can be drawn from the work of social anthropologists.

Since 1970, social psychologists have paid significant attention to the effects of culture on behavior. This growth was due, in part, to the increased level of intercultural interaction and its associated challenges that occurred with the rapid expansion in global communication, economies, and migration in the intervening period. Advances in social psychological theory and research methodology also facilitated more interest in the study of culture. As a result, knowledge about culture and behavior increased significantly in the latter half of the 20th century, principally through the work of social psychologists like Harry Triandis, Geert Hofstede, Hazel Markus and Shinobu Kitayama, Shalom Schwartz, and Richard Nisbett, among others.

Current Approaches and Knowledge

Many contemporary social psychologists who investigate the effects of culture do so by comparing national cultures to determine universal and culture-specific patterns of behavior. Cross-cultural research is conducted primarily from the sociocognitive perspective and focuses on the cultural values, beliefs, and attitudes or cultural knowledge that distinguishes the behavior of people with different national backgrounds.

One prominent tool employed by cross-cultural researchers is to classify nations by their relative support for individualism or collectivism. Individualism

is a set of values, beliefs, and attitudes that emphasize the importance of people pursuing their individual goals and behavior. Collectivism is manifest in values, beliefs, and attitudes that emphasize the importance of people following group goals and group norms for behavior. Research has shown North American, Western European, and Australian cultures to be relatively individualistic, while Japanese and Chinese cultures are comparatively collectivistic.

Individualistic and collectivistic cultures encourage people to adopt a certain set of interrelated values, beliefs, and perceptions of the self and the group. A person exposed to an individualistic culture is more likely to value personal autonomy, freedom of expression, and self-enhancement than is a person from a collectivistic culture, who would contrastingly be more likely to value obedience, tradition, and group enhancement. In addition, individualistic cultures encourage people to adopt an independent self-view or distinguish the self from others, whereas people in collectivistic cultures view themselves as more interdependent or connected to others. As a consequence, the individual and the group are perceived as the more prominent agent in behavior in individualistic and collectivistic cultures, respectively.

The distinction made between individualistic and collectivistic cultures helps explain a range of behaviors. Research has shown that North Americans attribute behavior to individual volition or internal dispositions. Chinese, on the other hand, attribute behavior to the influence of a person's primary reference groups or other factors external to the individual, such as situational influences. It has also been shown that the preference for maintaining harmonious interpersonal and intragroup communication patterns is much stronger in collectivistic than individualistic cultures. Individualism and collectivism are even manifested in language practices with Westerners more prone to use first person pronouns (e.g., *I, me*) than are people from collectivistic cultures.

While the classification of nations according to broad constructs such as individualism and collectivism is a powerful tool in cross-cultural psychology, our understanding of cultural knowledge is not limited to this extent. Nations have been shown to vary on other distinct systems of cultural values, such as the level of universalism, security, or power they promote. Moreover, groups within nations (e.g., states, regions, organizations) and groups that transcend national boundaries (youth, arts, religious groups) exhibit their own distinct cultural knowledge.

Cultural knowledge is thought to have evolved to meet a range of significant social and basic emotional needs. On one level, cultural values and practices give order and structure to the social world, be it to nations, societies, or groups. At another level, culture fulfills the individual emotional need for belonging, and the need for purpose and meaning to existence. Recent work by Jeff Greenberg and his colleagues also highlights that cultural worldviews fulfill the need for self-esteem: Self-esteem is derived from being seen to have successfully performed culturally valued behaviors.

The range of social and emotional needs that cultural worldviews meet helps explains why people are prone to show strong allegiance to their culture and their cultural group. Indeed, research has shown that raising existential anxiety among people leads them to strongly endorse their cultural values and beliefs and derogate, or distance themselves from, culturally different values or others.

Implications

Knowledge about culture and behavior from the view of social psychology has been successfully applied in various settings to solve a range of problems. These problems have included those that arise with intercultural communication and negotiation, the acculturation experience of immigrants, the contrasting ways people label and treat health concerns and psychological disorders, and the management of multinational organizations. More generally, intercultural understanding has been shown to reduce prejudice and intergroup conflict and promote harmonious relations and exchange between social groups.

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See also Cultural Animal; Cultural Differences; Collectivistic Cultures; Interdependence Theory; Self-Enhancement

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CULTURE OF HONOR

Definition

A culture of honor is a culture in which a person (usually a man) feels obliged to protect his or her reputation by answering insults, affronts, and threats, oftentimes through the use of violence. Cultures of honor have been independently invented many times across the world. Three well-known examples of cultures of honor include cultures of honor in parts of the Middle East, the southern United States, and inner-city neighborhoods (of the United States and elsewhere) that are controlled by gangs.

Cultures of honor can vary in many ways. Some stress female chastity to an extreme degree, whereas others do not. Some have strong norms for hospitality and politeness toward strangers, whereas others actively encourage aggression against outsiders. What all cultures of honor share, however, is the central importance placed on insult and threat and the necessity of responding to them with violence or the threat of violence.

Insults and threats take on great meaning in cultures of honor, because of the environments in which cultures of honor develop. Such cultures develop in lawless environments where there is no central authority (such as the state) that can offer effective protection to its citizens. In such a situation, a person has to let it be known that he will protect himself, his family, and his property. Insults and affronts are important because they act as probes, establishing who can do what to whom. A person who responds with violence over "small" matters (e.g., an insult or an argument over a small amount of money) can effectively establish himself as one who is not to be messed with on larger matters. Thus, an effective response to an insult can deter future attacks, when the stakes may be much higher.

Many violent incidents in cultures of honor center on what might be considered a trivial incident to outsiders. Such matters are not trivial to the people in the argument, however, because people are defending (or establishing) their reputations. What is really at stake is something of far greater importance than a one-dollar debt owed or a record on the jukebox.

In cultures of honor, reputation is highly tied up with masculinity. A telling anecdote from Hodding Carter's book *Southern Legacy* (1950) concerned a 1930s Louisiana court case, in which Carter served as a juror. The facts of the matter were clear. The defendant lived near a gas station and had been pestered for some time by workers there. One day, the man had had enough and opened fire on the workers, killing one person and wounding two others. As Carter tells it, the case seemed open and shut, and so Carter began discussions in the jury room by offering up the obvious (to him) verdict of guilty. The other 11 jurors had very different ideas about the obvious verdict, however, and they strongly and unanimously favored acquittal. Fellow jurors explained to Carter that the man couldn't be guilty—what kind of man *wouldn't* have shot the others? An elder juror later told Carter that a man can't be jailed for standing up for his rights. In cultures of honor everywhere, traditional masculinity is a virtue that has to be defended.

Various ethnographies have described cultures of honor in great detail. Sociologist Elijah Anderson, for example, has written about the culture of honor in inner cities of the United States. Anthropologists Julian Pitt-Rivers and J. G. Peristiany have written about honor in the Mediterranean region, and an important collection of papers can be found in Peristiany's 1966 book *Honour and Shame: The Values of Mediterranean Society.* Notably, the book includes chapters by Pitt-Rivers, Peristiany, and Pierre Bourdeau, who has written about honor and the importance of female chastity among the Kabyle of Algeria. As in many Mediterranean cultures, the sanctity of the family name among the Kabyle depends a great deal on the purity of its women and how well the men guard and protect it. In such cultures, females who disgrace the family may be killed by their male relatives in an attempt to cleanse the family name.

Within experimental social psychology, Richard Nisbett and Dov Cohen's 1996 book *Culture of Honor* lays out the case that there is a culture of honor among Whites in the contemporary South of the United States. Among other evidence, they show that the homicide rate is higher among Whites in the U.S. South, but only for killings that involve quarrels, lovers' triangles, and other arguments (i.e., those killings where honor is most likely to be at stake). They also show in opinion

surveys that White southerners are more likely to endorse violence than are northerners when the violence is used in response to insult or in response to some threat to home, family, or property.

In laboratory studies, they showed that southern U.S. college students were more likely than northern college students to respond in an aggressive manner when they were insulted. The insult involved an experimental confederate who bumped into the experimental participant as he was walking down the hallway and then called the participant an expletive. Southern students were more than twice as likely as northern students to become visibly angry at the insult (85% vs. 35%). They were more cognitively primed for aggression, completing scenarios with more violent endings. And they showed surges in their levels of testosterone (a hormone associated with aggression, competition, and dominance) and cortisol (a hormone associated with stress and arousal) after the bump. Additionally, southerners also became more aggressive as they subsequently walked down the hallway and encountered another experimental confederate (who was 6 feet 3 inches tall and weighed 250 pounds).

Finally, the researchers also showed that the laws and social policies of the South were more lenient toward violence than those of the North. This is important, because social policies may be one way the culture of honor is carried forward, even after the originating conditions (the lawless environment of the frontier South) have largely disappeared.

Dov Cohen

See also Aggression; Culture; Masculinity/Femininity; Threatened Egotism Theory of Aggression

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CURIOSITY

Definition

Curiosity is a pleasant motivational state involving the tendency to recognize and seek out novel and challenging information and experiences. Curiosity differs from other positive emotions by the strong desire to explore and persist in the activity that initially stimulated an individual's interest. Although curiosity and enjoyment tend to go in tandem, sometimes there is a conflict between curiosity and other positive emotions because curiosity can lead to the pursuit of new, uncertain, and complex activities that are aversive. With curiosity, the rewards appear to come from the process of integrating varied and complex information and experiences rather than simply the positive affect associated with it.

Individual Differences in Curiosity

All human beings have moments of curiosity, as it is a universal characteristic that begins to emerge during infancy. Yet, individuals differ in the preference for novel and challenging activities; the tendency to find themselves in, or actively search for, these activities; the breadth of activities that stimulate their interest; the threshold to experience curiosity; and the intensity, frequency, and chronicity of curiosity. Individuals also differ in their willingness to take physical, social, financial, and legal risks to satisfy their need for varied, uncertain, and complex experiences and avoid the pain of boredom. This is a variant of curiosity called *sensation seeking.* Sensation seeking not only includes more socially desirable activity, such as taking a walk in a cold breeze, using aromatherapy, and trying exotic foods, but also less socially desirable activity, such as gambling, cliff diving, ingesting consciousness-expanding drugs, or having a fascination with death and violence.

The degree to which people become curious or interested appears to be a function of recognizing the potential novelty, complexity, uncertainty, and conflict in the object of one's attention. Some of the primary qualities that induce curiosity include (a) novelty—newness relative to prior experiences and expectations, (b) complexity—the more variety or less integration of components within the scope of attention, (c) uncertainty—the presence of multiple outcomes and

possibilities with little knowledge of which will occur, and (d) conflict—the presence of competing response tendencies such as being motivated to approach or avoid the same activity. Each of these qualities can point to a gap in one's preexisting knowledge and capabilities, or representation of the self, world, or future. Strong feelings of curiosity can be expected when individuals are aware of discrepancies between what is known and not known and when they find it desirable to make the unknown known. An individual's curiosity is not only affected by evaluations of how novel and challenging an activity is, but also by personal abilities to cope and feel a sense of control. These appraisals (of novelty and coping potential) have an inverted-U function on curiosity and exploratory behavior. For example, high levels of novelty, complexity, uncertainty, and conflict can lead to undesirable feelings of anxiety and confusion, whereas moderate levels appear to be ideal for creating and sustaining curiosity and interest.

Despite these general factors that affect whether a person will be curious, the specific information and experiences that interest one individual can be boring or anxiety-provoking to another. That is, when you begin to examine interests and judgments, individuals with the same tendency to be curious may be interested in vastly different information, knowledge, and direct sensory experiences. For example, one highly curious person may be extremely interested in playing chess and solving complex, mathematical formulas while another highly curious person may find puzzles to be boring and be primarily interested in gossip and meeting new people. Among other psychological processes, the experience of curiosity in a given activity helps explain why individuals develop longstanding interests in one thing and not another.

Context and Importance

Curiosity is relevant to nearly all human activity ranging from leisure, creativity, decision making, and social relations to education, sports, work, and clinical therapy. By being fully engaging in varied and novel activities, a curious individual is guaranteed of stretching or expanding his or her knowledge, skills, and competence. Upon investing time, effort, and energy in activities that are intrinsically valued, curiosity facilitates personal growth and learning. In addition to these personal resources, feelings of curiosity can build social bonds by promoting behaviors such as engagement, responsiveness, and flexibility to others' varied experiences and perspectives. These behaviors are desirable in interpersonal transactions and the formative stages of relationship development. On average, people enjoy spending time and developing friendships with people who are interested in them and what they say and do.

Another value of curiosity is its role in motivating and sustaining interest in important, but boring or tedious, activities. If an activity induces curiosity, an individual is likely to persist and the process is likely to be as enjoyable as (or even more so than) other goal-related outcomes. If an activity does not induce curiosity but there is a good reason to continue (such as having to take calculus to graduate high school), individuals can transform activities by making them more interesting (such as completing projects with someone else or with good music in the background or trying to make a game out of it). Attempts to self-generate curiosity in mundane activities leads to sustained motivation and increased effort and performance.

What makes an individual curious and interested is a large determinant of the career choices they make and, on a smaller scale, activities chosen when options and time are available. Individuals who are generally more curious tend to achieve and perform better in academics, work, and sports (even after accounting for how intelligent or athletic they are). They also adjust better to school and job-related changes and are generally more satisfied and have better relationships with others in school, work, and other settings.

Curiosity is associated with a wide range of desirable psychosocial outcomes. This includes greater well-being, intelligence, creativity, critical thinking and problem-solving skills, goal effort and progress, preference for challenge in work and play, perceived control, and less perceived stress, negative emotions, and reliance on stereotypes and dogmatic thinking. A few provocative studies have even shown that more curious older adults live longer than their less curious peers even after accounting for the usual suspects such as age, gender, and physical health.

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See also Intrinsic Motivation; Sensation Seeking

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D

DATE RAPE

Definition

Date rape refers to forced sexual intercourse without consent that is perpetrated by someone familiar to the victim, usually an acquaintance or date. Although date rape can be perpetrated by women, the typical date rape occurs when a man uses physical or psychological intimidation to force a woman to have intercourse against her will. Date rape also occurs when men have sex with women who have been incapacitated with alcohol or drugs and thus unable to consent to sex. Many social psychological factors influence how date rape is defined, perceived, and experienced by victims and perpetrators. These factors include stereotypes, scripts, gender roles, and elements of the sexual situation.

Stereotypes of rape lead many people to believe that rape occurs when a woman is attacked by a stranger in a dark, secluded street. In fact, the vast majority of rapes are committed against women by men they know, including former lovers, current boyfriends or spouses, friends, and acquaintances. The typical date rape occurs after a man and woman have had several dates. The couple has previously engaged in some level of consensual activity like heavy petting or oral sex. The man wants to continue, but the woman refuses. Most men stop at this point, but date rape occurs when the man forces the woman into sex despite her rejection.

Why Does Date Rape Occur?

Theories to explain rape have focused on whether rape is sexually motivated or motivated by the male goals to exert power over women. Early views emphasizing sex often blamed rape victims for tempting men with their style of dress or behaviors. Rapists could not control their sexual desire in the face of such temptation. This view was challenged in the 1970s by feminist theories. Feminists proposed that most or all men are socialized by culture to rape, and that all men support and encourage rape because rape functions to instill fear in women. According to feminist theory, rape is one way that men can keep women in less powerful positions in society. The feminist view of rape can be credited for helping to dispel the victim-blaming of earlier theories, though it does not have much supporting evidence itself. Today, many psychologists believe that date rape results from a combination of personality and situational factors. These factors consider the background and personality of rapists as well as social-psychological factors related to the situation.

Factors Related to Rapists

Date rapists tend to explain their motives in terms of sex rather than power. They report having more sexual partners and sexual activity than other men. Date rapists prefer not to use force to get sex, but they will use force or intimidation if necessary. Risk factors for rapists include backgrounds with violent home life, delinquency, and macho peer groups that encourage sexual promiscuity and conquest. Date rapists also identify with exaggerated masculine gender roles. For example, they may endorse views that equate masculinity with hostility toward women and femininity, sexual conquest, and acting macho. Date rapists are egocentric and lack empathy toward their victims. They may justify their

actions by blaming their victims for being a tease or wasting their time and money on the date. Many date rapists do not interpret their actions as rape. The common belief that their victim actually enjoyed the rape is a sign of the rapist's distorted perceptions and lack of empathy for their victims.

Factors Related to the Situation

Research on date rape has examined how gender roles and sexual scripts may set the stage for sexual miscommunication between men and women. People use *scripts* or mental frameworks for organizing and guiding behaviors. Cultural standards of masculinity and femininity influence the scripts that men and women have for negotiating sexual activity. Many people possess a sexual script that "no" really means "yes." A man may believe that a woman's refusal is just a token so that she will not appear too permissive. The script suggests that if the man persists in his advances, the woman will eventually submit willingly, which is what she wanted to begin with. This script contributes to sexual miscommunication between men and women, and it may distort individuals' perceptions of other's sexual motives.

Individuals also have scripts and stereotypes that rape only occurs in the stranger scenario. This script may influence the way that individuals label their sexual experiences. Many women who have experienced nonconsensual sexual intercourse do not label or acknowledge their experience as rape. This is likely due to the fact that their experience does not fit into the stereotypical script for rape. Their rape script focuses on the stranger rape rather than date rape.

A new theory of date rape combines personality factors of the rapist with situational factors. This theory suggests that date rapists are narcissists who are insulted when women refuse their sexual advances. Narcissists feel a sense of personal entitlement. A narcissist may feel that a woman owes him sex after he has spent effort and money on a date. Narcissists are especially sensitive to rejection and may be easily offended when their sexual advances are refused. Narcissists are prime candidates to experience what psychologists refer to as *reactance* in this situation. Psychological reactance occurs when an individual feels that his or her freedom has been limited. In this case, the rapist feels that his right to have sex with his date has been denied. Reactance theory predicts that a forbidden fruit, once forbidden, becomes more

valuable. People will react and reassert their freedom by trying to take that which has been forbidden and aggressing against the person who limits their freedom. In other words, a narcissistic man will be insulted when his date does not submit to his desires. The sexual conquest will then become more valuable to the narcissist, and he will use force or intimidation to reassert his freedom and take that which he desires. Because most men do not rape, this theory is useful in predicting the type of man who will rape when his advances are refused.

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See also Narcissism; Narcissistic Reactance Theory of Sexual Coercion; Reactance

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DEBIASING

Definition

Debiasing refers to the wide variety of techniques, methods, and interventions that are designed to eliminate or lessen potential errors, distortions, or other mistakes in people's thinking, judgment, or decision making. Specific debiasing techniques can be placed into three general categories: (1) cognitive, involving things like changes in the ways in which decision makers conceptualize a problem; (2) motivational, involving things like changes in the ways in which incentives or punishments are allocated to decision makers; or (3) technological, involving things like changes in the ways in which computers and other technological advances can be employed to assist in problem solving.

Because people are imperfect and fallible decision makers, no matter which techniques are ultimately implemented, the term *debiasing* is normally used to refer to something that occurs to a relative degree rather than something that occurs completely.

Background and Importance

When there are problems, people quite naturally look for possible solutions. People are certainly skilled enough in their decision making to get through life perfectly fine most of the time, but they are also often unskilled enough to make predictable mistakes in their judgments. For the human decision maker, the glass is thus both half full and half empty.

Although debiasing research occasionally appears to be overshadowed somewhat by research demonstrating various biases—it may seem more noteworthy to show that something is broken rather than to show how to fix it—both debiasing and biasing are equally important to fully understanding decision making. Just as the study of biases can supply a roadmap predicting the conditions under which judgmental mistakes are likely to occur, the study of debiasing can supply a roadmap describing what might be done about these mistakes.

Evidence for Techniques

Evidence supporting the three general categories of debiasing techniques is fairly extensive and comes from diverse sources. This is illustrated with some specific examples.

Cognitive

Perhaps one of the best-researched cognitive debiasing techniques requires people to consider the opposite of their initial impressions before making a final decision. The strategy essentially entails asking, "Are there reasons why my initial judgment may be wrong?" For example, with the hindsight bias, people are most apt to come up with reasons supporting known outcomes, and thus those outcomes seem inevitable. Thinking about the opposite can work as a debiasing intervention by directing people's attention to alternative outcomes that might not have otherwise received adequate consideration. This debiasing technique seems to work especially well when people can easily think of opposing alternatives.

Other cognitive debiasing techniques involve education and training. People who know the correct rule to calculate the area of a parallelogram simply make fewer errors than those who do not. Similar to mathematics, one presumption is that other judgmental rules might likewise be taught. For example, once people learn that large samples represent a population better than small samples, this can lead to more accurate decision making. Educational training seems to be most effective when decision rules are concrete and directly applicable.

Motivational

Motivations can similarly influence debiasing. For example, people have a general propensity to simplify the world by categorizing things. An object with a flat platform, straight back, and four legs, may be characterized as a chair. However, one particularly negative consequence of this tendency is stereotyping. People may similarly characterize others just because they think the person belongs to a particular group. Although debate exists regarding the extent to which stereotyping is automatic, incentives such as considering future interactions with a person can sometimes lead to less reliance on stereotypes and more reliance on personalized information. Punishments, such as considering retribution for acting in prejudiced ways, may also lead people to put greater effort into decisions, resulting in less bias.

Accountability motives can also be used to debias. For example, if people expect they will have to explain their reasoning to others, they are more likely to put greater effort into a decision. When preparing to justify decisions to others, people seem better able to anticipate possible flaws in their own reasoning. Incentives or punishments can be social or monetary.

Technological

Technological advances, notably the widespread dispersion of computers, have further increased the potential for debiasing. In fact, many decision-making tasks are simply too complex and time consuming to carry out without the assistance of technology; for example, consider the complexities of launching the Space Shuttle. Complex decision tasks are known to be more susceptible to biases and errors. It thus seems logical, at least superficially, that computers can aid complex calculations and help lead to more accurate judgments.

Technological advances in the form of various algorithms to arrive at particular decision outcomes relatedly can result in greater debiasing. Complex equations can now be accurately solved in nanoseconds. Of course, the weak link in technology still may be the human decision makers running the computers and writing the programs.

General Implications

People have many highly useful and often adaptive decision-making strategies, but sometimes these strategies are susceptible to errors, distortions, or other mistakes. Debiasing techniques have been devised as attempts to eliminate or at least minimize these. However, successful debiasing requires at least four things. Decision makers must (1) be aware of the potential bias, (2) be motivated to correct the bias, (3) recognize the direction and magnitude of the bias, and (4) be able to adequately control or adjust for the bias. Together, these things may not always be achievable. The extent to which people's biases can be effectively debiased thus has very profound implications for virtually all thinking, judgment, and decision making.

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See also Accountability; Decision Making; Hindsight Bias; Stereotypes and Stereotyping

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Deception (Lying)

Definition

Deception is most commonly defined as intentional attempts to mislead others through words or behaviors. Deception can involve misrepresenting one's actual beliefs, knowledge, feelings, characteristics, or experiences. The term *lying* is commonly used to describe explicit verbal deception (e.g., telling your boss that you were late for work because of traffic, when in reality you overslept). However, deception is more than intentionally providing others with false verbal statements; it also includes verbal omissions or the withholding of information (e.g., not telling your spouse about an affair). Deception can also be, and perhaps is most commonly, behavioral (e.g., concealing sadness by smiling, getting cosmetic surgery to appear younger). Lying and purposefully misleading others are generally viewed as socially unacceptable, although some forms of deception are socially accepted and expected (e.g., impression management), and social psychologists have found that individuals commonly mislead themselves in certain ways (self-deception).

Research on the Prevalence and Purposes of Deception

Only in recent years has systematic research been conducted to understand how often and why individuals deceive others. This work has led to an important conclusion: Everyone lies. The most direct evidence of this has been conducted by Bella DePaulo and her colleagues. Using survey and diary research methods, they have found that the overwhelming majority of people (approximately 99.5%) report lying daily, willingly describing in detail an average of approximately 1 to 2 explicit verbal lies per day. The most commonly reported lies involve the misrepresentation of one's feeling and opinions (e.g., telling your grandmother that you like the out-of-style sweater she gave you) and providing false information about one's actions, plans, and whereabouts (e.g., reporting that you were at the library studying when actually at the pub). Less frequent but still common lies concern misleading others about one's knowledge or achievements (e.g., lying about one's academic record), providing fictitious reasons or explanations for actions taken (e.g., blaming computer trouble for late work actually resulting from procrastination), and lies about facts and possessions (e.g., claiming to not have the money to loan to a friend). Commonly reported reasons for lying include to avoid embarrassment, to make a favorable impression on others, to conceal real feelings or reactions, to avoid punishment or aversive situations, and to not hurt others feelings (often called *altruistic lies*).

Research on Deception Detection

A long-standing interest among social psychologists and others concerns whether deception can be detected. The two approaches to deception detection have been at the interpersonal level and at the technological level.

In general, research indicates that people cannot detect deception during normal social interactions as much as they think they can. Typically, people can detect when others are being deceptive toward them at only a little above the level of chance guessing (i.e., a little more than 50% of the time). Noteworthy research by Paul Ekman and his colleagues has found that judges, police officers, psychiatrists, polygraph experts, business people, lawyers, and students are all not much better than chance at detecting lies. But interestingly, subsequent research indicates that some individuals who have had extensive and direct experience with detecting deception for their profession (e.g., secret service agents, sheriffs, and clinical psychologists with experience with criminal defendants) can do so at levels significantly better than chance. Potentially explaining why some individuals are better at detection than others, it has been found that deception is associated with some subtle behaviors. For example microexpressions, very quick facial expressions that last only a few tenths of a second and are difficult to suppress, have been found to be associated with lying (e.g., a frown quickly followed by a smile). Also found to be related is eye contact, with deceptive individuals often blinking more, having more dilated pupils, and engaging in either very little or an unusually high level of eye contact. Other potential indicators are a raised voice pitch, long response delays, the use of different words than normal, and the presence of inconsistencies among nonverbal cues (e.g., the deceptive person may seem to have normal facial expressions but awkward eye contact or interpersonal distance). Importantly, although indicators of deception have been found, it is clear that no single indicator is a highly reliable cue for lying in all situations. Furthermore, it has been found to be difficult to train people to be more accurate at detecting lies.

The polygraph machine, commonly referred to as the "lie detector machine," is a device that measures physiological responses such as heart rate, blood pressure, breathing rate, and skin conductance (to measure sweating). These physiological measures are all associated with the autonomic nervous system, the activation of which occurs naturally in situations of threat, stress, and anxiety. The basic assumption underlying the polygraph is that physiological indicators of autonomic nervous system activation will occur when a person is attempting to lie or deceive. The common polygraph technique involves comparing an individual's responses to control questions (e.g., "What is your name?") with the individual's responses to critical questions (e.g., "Did you steal the money?"). If an individual shows more physiological response when responding to critical questions, then deception is "detected" by the logic that only a guilty or deceiving individual would become anxious when responding. While under ideal circumstances, research shows that polygraph machines can detect deception at above-chance levels, they do so well below perfection. As a result, the scientific consensus is that they are far from infallible, and most researchers seriously question the validity of using the polygraph for important legal, security, or employment decisions. What is especially troublesome is that there is no widely agreed-upon method for administering or scoring polygraph examinations. As a result, operators have been found to disagree on the results. Furthermore, it is known that errors are common—both false negatives (declaring deceitful responses as truthful) and false positives (judging truthful responses as lies). There is also evidence that countermeasures—attempts to "beat" the polygraph by controlling physiological responses—can be effective. Lastly, in recent years newer and more sophisticated technologies such as "brain fingerprinting," in which brain activation patterns are analyzed, have been offered as potentially more accurate methods for lie detection. However, like the polygraph, at this time the scientific evidence supporting the use of such techniques is weak.

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See also Bogus Pipeline; Facial Expression of Emotion; Forensic Psychology; Impression Management; Self-Deception

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DECEPTION (METHODOLOGICAL TECHNIQUE)

Definition

Deception is a methodological technique whereby a participant is not made fully aware of the specific purposes of the study or is misinformed as part of the study. Two main forms of deception may occur in research.

1. The researcher intentionally misinforms the participant about some aspect of the study. For example, a researcher wanting to study how people respond to negative health feedback may deceive participants by telling them a saliva test they took indicates that they may have a disease, when in fact the test was only a manipulation used to create an emotional response.

2. The researcher omits some information, such as not telling participants that a study of "relationship formation with a stranger" actually deals with the specifics of interracial interactions. This type of deception is based on the notion that certain psychological processes may be biased if the participant were aware of the exact nature of the study.

A common form of deception is not fully disclosing the true nature of the study until it is over. Here knowledge of the purposes of the study may cause participants to act in less than spontaneous ways and may bias the results. Additionally, the "stranger" in the study may not be another participant at all but rather a trained member of the research team, called a *confederate*, whose job it is to guide the interaction based on a script and evaluate the actual participant. In this form of deception, the participants are not misinformed, but they are not made fully aware of the specific purposes of the study. The use of a confederate is another form of deception. In this example, it is true that the participant was interacting with another person. The deception occurred because the other person was not another participant but rather a member of the research team, and the interaction was predetermined by an experimental script. In this and other cases, deception can often be seen in the "cover story" for the study, which provides the participant with a justification for the procedures and measures used. The ultimate goal of using deception in research is to ensure that the behaviors or reactions observed in a controlled laboratory setting are as close as possible to those behaviors and reactions that occur outside of the laboratory setting.

Deception and Ethics

Since it is an ethical responsibility of researchers to gain informed consent from participants, deception can be seen as a threat to the "informed" nature of consent. For this reason, deception can only be used in certain circumstances. The conditions for those circumstances are that (a) no other nondeceptive method exists to study the phenomenon of interest, (2) the study possesses significant contributions, and (3) the deception is not expected to cause significant harm or severe emotional distress. Whenever deception is used, it is the responsibility of the experimenter to fully debrief the participants at the end of the study by explaining the deception, including the reasons it was necessary and ensuring that participants are not emotionally harmed. In certain cases, debriefing participants can actually increase the harm of deception by making participants feel tricked by pointing out perceived flaws. However, a thorough debriefing that alleviates distress and explains the deception is usually sufficient. Human subjects committees or Institutional Review Boards, which include researchers and lawyers that review and approve research at an institution, must approve the use of deception to certify that it is both necessary and that a plan exists to debrief participants to remove and residual effects of the deception.

History in Social Psychology

The use of deception can be tied to the earliest experiments in social psychology, but it began in earnest after World War II when social psychology began to prosper. In the 1960s and 1970s, many of the most famous and most important social psychology studies involved deception. One famous example is Stanley Milgram's studies of obedience in which the participants were told that they were to deliver strong electrical shocks to a participant sitting in the next room. The shocks were never administered, although the other person, who was a confederate, reacted as if they were. As a result of critiques of these types of studies, both the type and amount of deception used in current social psychology studies tend to be less extreme.

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DECISION AND COMMITMENT IN LOVE

Definition

Commitment represents the motivation to stay in a relationship and to work at it. It is not surprising that we stay in relationships while they are highly satisfying, but why stay in a relationship that has not been satisfying lately? People may choose to persevere when things get difficult because they have invested a great deal, they have poor alternatives, or they wish to stay true to their personal values ("I made a pledge to stick with this"). Furthermore, a relationship can, over time, become a big part of "who I am," and therefore it is not something that is easily discarded.

The decision to commit and work through short-term periods of boredom or distress will allow people to potentially reap the benefits of a loving, long-term relationship. Commitment promotes relationship longevity by motivating people to see, think, and act in ways that help sustain a relationship. For example, romantic partners sometimes can behave undesirably, ranging from annoying little habits to major transgressions. Highly committed people are less likely to notice the bad behavior and are more likely to excuse the behavior if it is noticed ("It's because she had a bad day at work"). Finally, if explaining away the behavior is not sufficient, committed individuals are more likely than others to accommodate the bad behavior in ways that help keep the relationship going (talk through the problem, loyally keep quiet and move on), and they are less likely to respond in ways that undermine the relationship (scream, throw objects and leave, or neglect the partner). Of course, the darker side of this is that committed individuals may try to accommodate their partners even when the partner is abusive.

In general, commitment motivates people to sacrifice their self-interest and short-term rewards, and to inhibit immediate negative impulses, on behalf of the relationship. How far a person is willing to go depends upon the level of commitment and the level of costs. For example, research has found that students committed to heterosexual dating relationships judged an attractive opposite-sex person as ordinary-looking, whereas those less committed judged the person as highly attractive. However, when they were led to believe that the other person was attracted to them, committed daters no longer defended the relationship by "devaluing" the attractiveness of the person. The researchers concluded that the daters were not sufficiently committed to withstand the stronger threat. In contrast, married people high in commitment dismissed the highly threatening attractive person as unappealing.

Finally, when predicting the future prospects for the relationship, one's frame of mind matters. When people are deliberating about the pros and cons of a relationship goal ("Should we go on a vacation together?") or even a personal goal ("Should I major in psychology?"), they make more accurate predictions about their relationships than when they are thinking about how to implement a goal to which they have already committed to pursuing ("How am I going to get an A in this course?"). For example, after thinking of whether to major in psychology, a person should more accurately forecast relationship longevity than after thinking about how to get an A in a course this term. Deliberation makes people more realistic in their assessments of their relationship prospects. Commitment may help sustain a relationship, but mindset may help one gauge commitment.

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DECISION MAKING

Definition

Decision making refers to the act of evaluating (i.e., forming opinions of) several alternatives and choosing the one most likely to achieve one or more goals. Common examples include deciding for whom to vote, what to eat or buy, and which college to attend. Decision making plays a key role in many professions, such as public policy, medicine, and management. The related concept of judgment refers to the use of information, often from a variety of sources, to form an evaluation or expectation. One might imagine that people's judgment determines their choices, though it is not always the case.

Background

Theories of decision making were originally developed by philosophers, mathematicians, and economists, who focused on how people make choices to achieve often conflicting goals. Following the work of early theorists such as John von Neumann and Oskar Morgenstern and Leonard Savage, a theory called *subjective expected utility theory* has become particularly influential. This theory distinguishes between the decision maker's values (otherwise called his or her *utilities*) and expectations or beliefs. The key assumption is that people select the option that is associated with the highest overall expected utility. In plain terms, you pick the best option, and so decision making is about figuring out what is the best choice.

Expected utility theory and decision theory have focused on normative aspects (i.e., what people should do), whereas *behavioral decision theory* and the general field of behavioral decision making have focused on descriptive aspects of decision making (i.e., what people actually do to form judgments and make choices). It is noteworthy that, although expected utility theory was derived from economic principles of rational behavior rather than based on studies of human behavior, economists and researchers in many other fields have assumed that the theory also describes actual behavior and that departures from rational choice would eventually correct themselves based on learning and external forces.

This assumption, in turn, led to a great deal of behavioral decision research, which has documented a wide range of violations of utility maximization, that is, cases in which people pick something other than what is objectively the best option. Thus, research findings have often been seen as interesting to the extent that they appeared surprising and inconsistent with expected utility theory. Such research has shown that expected utility theory is often inadequate. Furthermore, the theory does not address many of the key aspects of judgment and decision making, such as the selection of information and options to be considered, the manner in which a decision maker might trade off the considered attributes of the options, and the impact of affective and social factors. Moreover, expected utility theory does not address the process of judgment and decision making.

A cognitive scientist named Herbert Simon introduced the concept of bounded rationality, which is an idea that takes into account the fact that people only have a limited cognitive ability to process information. Because of limited processing ability, instead of maximizing utility (i.e., picking the objectively best option), people may *satisfice*; that is, they may choose an option that is good enough, even though it may often not be the overall best. Limited cognitive capacity also implies that people will tend to rely on shortcuts or simplifying strategies, referred to as *heuristics*, which typically produce satisfactory decisions, though in some cases they may produce errors.

Despite the initial emphasis on demonstrating violations of rationality and expected utility theory, behavioral decision theory research has become more psychological and process oriented. Thus, following research in social and cognitive psychology, researchers have started employing various process measures (e.g., verbal protocols) and manipulations that were designed to provide a better understanding of the processes underlying judgment and choice.

Constraints on Effective Judgment and Decision Making and Insights Into How Judgments and Decisions Are Made

Behavioral research on judgment and decision making has documented numerous violations of normative models that were previously relied upon. The following discussion briefly reviews a few important examples.

Judgment Heuristics and Biases

The theory of rational choice has assumed that people are generally capable of computing and making unbiased judgments. However, a great deal of research has demonstrated that people's assessments of probabilities and values are often inconsistent with basic laws of probability. Going beyond the notion of bounded rationality, psychologists Amos Tversky and Daniel Kahneman advanced three heuristics that play a key role in intuitive judgments of probabilities, magnitudes, and frequencies: representativeness, availability, and anchoring. According to the *representativeness heuristic*, people judge the likelihood that X is a Y based on their assessment of the degree to which X resembles Y. For example, when assessing the likelihood that a student specializes in poetry, people assess the similarity between that student and the prototypical poet.

The *availability heuristic* indicates that people assess the frequency and probability of an event or a characteristic based on the ease with which examples come to mind. For example, in one demonstration, a group of respondents estimated the number of seven-letter words (in a few book pages) that end with *ing*, whereas a second group estimated the number of seven-letter words with *n* in the sixth position. Consistent with the availability heuristic, the former estimate was much higher than the latter (even though any seven-letter word that ends with *ing* necessarily has *n* in the sixth position).

Anchoring refers to a process of assessing values whereby people who start from an anchor tend to end up with a value that is close to the initial anchor. For example, people estimated that Gandhi lived until the age of 67 after being asked if he died before or after the age of 140, whereas those asked if he had died before or after the age of 9 estimated that he had died at the age of 50. Similar anchoring effects have been observed even when the anchor was clearly arbitrary, such as when people make an estimate by deciding whether the true value is above or below the last two digits of their own social security number.

Prospect Theory

Kahneman and Tversky's *prospect theory* represents an influential, comprehensive attempt to revise and address key violations of the standard expected utility model. That is, those two researchers tried to formulate a general explanation of the reasons people fail to make the best choice. Options are evaluated as gains or losses relative to a reference point, which is to say that it is not the absolute effect that matters but whether the event has positive or negative implications for one's current standing. This has often been applied to money: The data show that it's not the same to gain $10,000 for a poor person as it is for a rich person, because the gain is much greater for the person whose current wealth is very little.

In general, most people tend to be risk averse for gains and risk seeking for losses. Risk aversion can be thought of like this: A person facing two options, one of which is a surer bet but has a smaller payout compared to the other, which is more uncertain to be obtained but with a larger payout, would be predicted to choose the option that will bring a surer but smaller payout. Risk seeking (or risk tolerance it is also called) is the opposite. Imagine a person facing a choice between two options, one of which is more certain to happen. Prospect theory and many experiments that have tested it have shown that people prefer the larger (riskier) loss that has less certainty to happen.

Another important point from prospect theory is *loss aversion*—losses have a greater impact psychologically than similar gains. In other words, losing $500 hurts a lot more, psychologically, than finding $500 brings pleasure. The property of loss aversion is related to *endowment effect* and the *status quo bias*.

The Construction of Preferences

A great deal of decision-making research since around 1975 has led to a growing consensus that preferences for options are often constructed when decisions need to be made, rather than when they are retrieved from a master list of preferences stored in memory. This means that people tend to make decisions

because of "on-the-spot" feelings or ideas rather than some deep, ingrained beliefs that they constantly use to make choices. This means that choices are sensitive to the framing of the options, the choice context, and the preference elicitation task.

With respect to framing, it has been shown, for example, that (a) framing options as losses rather than as gains leads to more risk-seeking preferences, and (b) framing (cooked) ground beef in terms of how lean it is (e.g., 80% lean) rather than how much fat it contains (20% fat, even though that conveys the same message about the meat as 80% lean) produces more positive evaluations of the beef's taste. Regarding the impact of the choice context (or choice set configuration), it has been shown that adding an asymmetrically dominated option (e.g., adding an unattractive pen to a choice set consisting of an attractive pen and $6 in cash) increases the share of the dominating option (the attractive pen).

It has also been shown that an option often is chosen more often, relative to how often other options are chosen, when there is a "compromise" (a middle) option in the set. With respect to the preference elicitation task, studies have shown, for example, that performing what is called a *matching task* (i.e., the person is asked to enter a value that makes two options equally attractive) leads to different preferences than when people simply perform a choice task—despite the fact that the options that are presented are the same, and the only difference is the method used by the person to evaluate the options. Similarly, ratings or evaluations of individual options tend to produce systematically different preferences than choices or other tasks involving joint evaluation of options.

Current Directions in Decision Research

As the question of whether expected utility model adequately describes decision making has been largely resolved, decision researchers have tried to gain a better understanding of how decisions are actually made, often using various process measures and task manipulations. Furthermore, researchers have examined a wider range of judgment and decision-making dimensions and have addressed topics that were previously regarded as the domain of other fields, such as social and cognitive psychology and business administration.

Process Measures

Whereas earlier decision research was focused on the outcomes of decisions, it has become clear that decision processes can provide important insights into decision making, because they are influenced by task and option variations that may often not influence decision outcomes. It was initially assumed that decision makers apply particular decision rules, such as forming an evaluation of an option by adding the positive aspects of that option and subtracting the negative aspects (e.g., weighted additive [compensatory] model), or by choosing important aspects of the decision and then choosing based on whether options do or do not reach a certain cutoff in that domain (e.g., conjunctive rule, or lexicographic decision rules). However, consistent with the notion of constructed preferences, subsequent research has shown that decision makers typically combine fragments of decision rules, such as starting by eliminating options that do not meet certain standards and then using the adding positives/subtracting negatives compensatory rules to evaluate the remaining options.

Early process-oriented decision research relied largely on process measures, such as response latencies, the percentage of intradimensional versus interdimensional comparisons, and verbal protocols. Such measures can provide rich data, though concerns might arise whether the behavior and responses that are captured accurately represent naturally occurring decision processes. A complementary research approach, similar to many studies in psychology, is to rely on task conditions (e.g., cognitive load, time pressure), stimulus manipulations, and individual differences from which one could infer the underlying decision processes and moderators of the observed decision outcomes.

The Role of Affect in Decision Making

Most decision research has focused on what might be seen as objective evaluation of options based on attributes such as the probability of winning and the payoff. However, there is a growing recognition that decisions are often influenced by the affective reactions to options. Affect refers to the emotional reaction to the "goodness" (or attractiveness) of options, which is often triggered automatically without much (or any) thought. It has been suggested that such automatic, affective reactions are often the main drivers of

judgments and decisions, with conscious, deliberate arguments merely serving to explain those decisions. Researchers have used a wide range of methodologies to examine the role, primacy, and speed of affective reactions to decision stimuli, such as subliminal priming, the observation of patients whose affective processing ability was damaged, and the impact of putting respondents in a positive or negative mood.

The Two-System View of Judgment and Decision Making

Evaluations based on automatic, affective reactions belong to a broader class of judgments and decisions that tend to be done intuitively and automatically, without any deliberate evaluation. It is now believed that such processes may characterize many, perhaps most, judgments and decisions, whereas more deliberate, slow, reason-based processes are activated as needed, sometimes correcting or overriding the automatically produced responses. Although intuitive, automatic responses have been shown to influence both judgments and choices, deliberate evaluations of options and their attributes tend to play a greater role in choice. Indeed, viewing choice as driven by the balance of reasons for and against options has been shown to account for choice anomalies (e.g., the asymmetric dominance and compromise effects discussed earlier), which are more difficult to explain based on value maximization or based solely on the notion that decisions are made automatically, with little consideration of attributes or the relations among options.

Social and Cultural Aspects of Decision Making

In addition to considering the implications of task and stimuli characteristics for decision processes and outcomes, decision researchers have studied the role of social and cultural factors and individual differences in decision making. Some social aspects, such as conformity, have received relatively little emphasis, despite their clearly important role in decision making, in part because they appear straightforward and not surprising. However, researchers have examined, for example, the ability of social conditions, such as accountability and having to justify to others, to moderate and possibly diminish people's susceptibility to various judgment and decision errors. By and large,

similar to other types of incentives such as giving monetary compensation for good performance, research has shown that social incentives have limited beneficial impact on decision performance, though they could diminish some errors that are due to limited effort. There also has been a growing interest in the role of cross-cultural differences in decision performance. Initially, researchers focused on the differences between "individualistic" (e.g., people in the United States and Western Europe) and "collectivist" (e.g., Asian) societies, for example, showing that Chinese tend to be more susceptible than Westerners to the overconfidence bias. More recent research suggests that cross-cultural differences in judgment and decision making are less robust than previously thought and are sensitive to various situational factors.

The Growing Influence of Behavioral Judgment Decision Making Research in Applied Fields

Most behavioral decision researchers now reside in business schools rather than in psychology departments. This shift reflects, in part, the growing influence of decision research on applied fields, such as marketing, organizational behavior, and behavioral economics. For example, a great deal of behavioral decision research over the past 30 years or so has examined topics related to consumer decision making, bargaining, fairness, and behavioral game theory. Furthermore, there is a growing recognition in the economics field, which dominated early views of decision making, that violations of rationality are often systematic, predictable, and are not corrected by learning or market forces. Accordingly, the still evolving subfield of behavioral economics has increasingly incorporated descriptive aspects of decision making, derived from studies conducted by behavioral decision researchers, into economic models, addressing issues such as choice, valuation of goods, and discrimination.

Itamar Simonson

See also Heuristic Processing; Loss Aversion; Mere Ownership Effect; Overconfidence

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Decision Model of Helping

Definition

The decision model of helping, introduced in *The Unresponsive Bystander* by Bibb Latané and John Darley, outlines a process of five steps that will determine whether a bystander will act or not in a helping situation. This model is also intended to offer a counterargument to the proposition that people do not help in emergencies simply because they become apathetic. As Latané and Darley suggest, an individual's interpretation of the emergency may be more influential than the individual's general motivation when it comes to his or her actions in an emergency. The decision model of helping outlines the five steps to helping behavior. First, the bystander must recognize a problem. If perceived as a problem, the second step requires the interpretation of the problem as an emergency. If perceived as an emergency, the third step requires the bystander to feel a personal obligation to act. If the bystander feels responsible to help, the fourth step requires that bystander to decide how to act (form of assistance). And finally, the bystander must decide how to implement the form of assistance. Thus, the decision model of helping explains the helping behavior process from the perception of a problem to the actual act of helping.

Fives Steps to Helping Behavior

There are five distinct and consecutive steps in this model. First, one must recognize a problem. Second, there must be an interpretation of the problem as an emergency. Third, the bystander must feel a personal obligation to act. Fourth, the bystander must decide how to act (form of assistance). And finally, the bystander must decide how to implement the assistance.

Step 1: Recognizing the Problem

Bystanders must first recognize that whatever is occurring is not normal, usual, or common; it is a problem. A famous experiment conducted by Darley and Latané exemplifies this first step. Experimental participants were completing a questionnaire in a waiting room before an interview when smoke suddenly appears out of an air vent. These participants were either in the waiting room alone or with two other participants who were actually confederates pretending to be waiting for their interview. Results showed that the 75% of the participants who were in the waiting room alone reported the smoke to the experimenter, whereas only 10% of the participants did so when in the waiting room with two other confederates. Darley and Latané used this experiment to illustrate how people must first recognize a problem. Participants who are alone think something is wrong when they see smoke emanate from a vent. Because this does not usually happen, participants recognize that this could be a problem and hence report it to the experimenter. However, in the other condition, the participants see that smoke is escaping an air vent but then look to the calm expressions of the confederates, who continue filling out the questionnaire, and make the inference that the smoke may not be a problem. After all, if it were a problem, the confederates would have appeared to be alarmed. Hence, the implication is that the same event, a smoky vent, can be interpreted as a problem when the participant is alone but not when the participant is in the presence of calm peers.

Step 2: Interpreting the Problem as an Emergency

If bystanders conclude that there is a problem in Step 1, then Step 2 follows—interpreting the problem as an emergency. Latané and Darley foresee considerable material and physical costs of both intervention and nonintervention, noting additionally that the rewards associated with helping are usually not high or profitable. Consequently, perceiving the problem as an emergency is subject to rationalizations such as discounting the extent to which the problem is really an emergency. The tendency for bystanders to avoid perceiving a problem as an emergency is illustrated in an experiment involving a fight between children. Participants were placed in a room adjacent to another in which (tape-recorded) children were purported playing when the sounds of fighting or play-fighting occurs.

Participants were previously told that the children were either "supervised" or "unsupervised." Results showed that 88% of the participants who were told the children were supervised (no personal responsibility) thought that the fight was real, compared to only 25% of those participants who were told that the children were unsupervised (personal responsibility). In other words, participants who had more personal responsibility for the children were more likely to rationalize the fighting as playing than those who had no responsibility. Hence, the implication is that the same problem can be perceived as an emergency in one case but not another. One's decision whether or not to help is rooted in the interpretation of the problem as an emergency.

Step 3: Deciding Whether One Has a Responsibility to Act

If people recognize a problem (Step 1) and interpret it as an emergency (Step 2), then a bystander is forced to decide whether one has a responsibility to act. A bystander who is alone has all the responsibility during an emergency. However, the level of personal responsibility that one feels can become diffused to the extent that other bystanders are also present and aware that help is needed. For example, consider the famous case of Kitty Genovese, who was murdered in New York City despite her pleas for help. It turns out that many people in the neighborhood fully understood that help was needed but no one felt personally responsible to help, as they assumed that others in the neighborhood had already took action (i.e., calling the police). A bystander, however, has a greater sense of responsibility to act when placed in situations with greater personal involvement or a psychological connection to the victim or fellow bystanders. For example, when experimental participants were accompanied by friends, there was not only a significant increase in the percentage of participants completing Steps 1 and 2 of the decision model but also Step 3—determining a responsibility to act. In fact, the rates at which participants took the responsibility to act when accompanied by a friend were similar to the rates at which participants did so when alone with a victim.

Steps 4 and 5: Deciding How to Assist and How to Act

Assuming that Steps 1, 2, and 3 are met, Steps 4 and 5 follow. Step 4 of Latané and Darley's model involves deciding what form of assistance to provide. This step has many variables in it, including the competency and confidence of the bystander in a specific context (e.g., a bystander familiar with CPR might hesitate before giving CPR compared to a bystander who is a physician). This step is closely followed by the actual act of helping—Step 5. Latané and Darley discuss Steps 4 and 5 together and note that once an individual reaches Step 4, it is highly likely that he or she will continue with the Step 5. Thus, once an individual decides how to help, he or she will very likely implement that way to help. To explain these final two steps and their interconnection, experiments on the willingness to help someone purportedly experiencing a seizure varied the composition of participants and confederates. The participants were either female or male with female or male confederates, who were either medical experts or not. Regardless of the characteristics, Latané and Darley concluded that, for Step 4, the form of intervention is crucial, and it can be *direct* such as stepping in to break up a fight or *reportorial* in which the need for help is reported to another person. Thus, in deciding what kind of assistance to provide and how to provide it, subjects must make delineations between direct and reportorial action.

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See also Altruism; Arousal; Bystander Effect; Diffusion of Responsibility; Terror Management Theory

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DEFENSIVE ATTRIBUTION

Definition

Defensive attributions are explanations of behaviors that serve to defend an individual's preferred beliefs about self, others, and the world.

Background

Sigmund Freud, at the beginning of the 20th century, first popularized the idea that people's desires can bias their explanations of events. Freud proposed a variety of defense mechanisms people use to avoid threatening interpretations of their own and other people's behavior. For example, rationalization involves constructing false explanations for one's own actions that avoid negative interpretations of them.

The term *defensive attribution* combines the Freudian notion of psychological defense with the attribution theory of Fritz Heider. Attribution theory posits that people understand their social worlds as comprising causes and effects. The individual typically decides an action was caused either by an attribute of the individual (internal attribution) or by an aspect of the situation (external attribution). Like Freud, Heider proposed that because the cause of a behavior can never be known for certain, individuals' desires can easily influence their attributions.

Types of Defensive Attribution

A variety of causal attributions serve a defensive function. When researchers began studying causal attributions in the 1960s, they found that people generally attribute their successes internally to their own abilities, but failures to external factors such as bad luck. This pattern of attributions, known as *self-serving attributions*, serves to defend or bolster individuals' positive view of themselves (their self-esteem). People even sometimes set up an impediment to success prior to difficult evaluative situations so that they can have a ready defensive attribution should they subsequently fail. If they fail, they can then blame the impediment. For example, a student can go out drinking the night before an important exam, or procrastinate and only begin studying the night before the exam. Should the student then do poorly, he or she can defend against the self-esteem threatening possibility that he or she lacks the ability to do well by blaming a hangover or lack of preparation. This well-documented phenomenon, known as *self-handicapping*, demonstrates that people are often motivated to engage in defensive attribution to protect their self-esteem.

Similar defensive attributions are made for other people whom individuals like, such as friends, relatives and members of their own groups. For example, if a well-liked male friend treats his girlfriend badly,

one is likely to be biased toward believing the girlfriend must have provoked the poor treatment. In contrast, people also generate defensive attributions to maintain negative views of people they don't like and members of rival groups. A success by a member of a disliked group will tend to be attributed to luck or perhaps cheating.

Defensive attributions have also been shown to protect an individual's beliefs about the world. Many people live with difficult circumstances such as poverty, disease, and physical handicaps. Yet, as Melvin Lerner's just-world theory has proposed, individuals want to believe that the world is a just place and that they will not be victims of such circumstances. Research shows that to preserve such beliefs, people often blame others who experience misfortunes for their own fate. By defensively attributing negative outcomes to the person's immorality, stupidity, or laziness, people can maintain the belief that the world is just and they themselves will be spared such a fate; this can lead to overly harsh judgments of others who are living in poverty or who have been victimized by diseases, accidents, or violent crimes such as rape.

Similarly, defensive attributions can be used to maintain faith in virtually any belief. They can help sustain faith in one's religion, the righteousness of one's nation, and the validity of one's own theories. By using defensive attributions, people can tenaciously cling to their preferred beliefs even in the face of what would seem to be clear discrediting evidence. In the mid-1950s, Leon Festinger and colleagues documented this by studying a doomsday cult that predicted the world was going to end on a certain day. When that day arrived without incident, the members of the group explained that their own prayers and faith had saved the world.

The Importance of Defensive Attributions

As these examples suggest, defensive attributions often lead people toward biased and inaccurate views of themselves, other people, and the world around them. These views are often psychologically comforting; it feels good to have positive views of oneself and those one likes and relieves guilt and makes one feel safe to believe that the world is just and that people suffering misfortune are responsible for their problems. Indeed, some theory and research suggest that

defensive attributions can help people function successfully in the world. For example, self-serving attributions seem to be prevalent in well-functioning people and lacking in depressed people.

However these attributions also contribute to failures, unjust treatment of others, prejudice, and interpersonal and intergroup conflict. They lead people to overlook aspects of themselves they need to improve, and to pursue career paths for which they are not suited. Minority groups within nations are almost always lower in socioeconomic status, and so defensive attributions to support belief in a just world are likely to contribute to negative stereotypes and prejudice against such groups.

In the interpersonal realm, defensive attributions often contribute to "finger pointing" or reciprocal blaming, leading to dissension within organizations and conflict within relationships. For example, in a failing marriage, a man may blame his dissatisfaction on his wife's constant nagging, whereas the wife may blame her dissatisfaction on his neglect of her and the relationship. The truth may be that both need to change, but the defensive attributions lead to such divergent, unrealistic views of the problems that a positive resolution is unlikely.

Finally, defensive attributions can also contribute to political and international conflicts. For example, many Americans attributed the 2003 invasion of Iraq to a moral effort to remove a dangerous dictator and spread democracy. In contrast, many in the Middle East attributed the invasion to American immorality, arrogance, and greed. This is only one of many historical examples in which defensive attributions have had global consequences.

Jeff Greenberg

See also Attribution Theory; Just-World Hypothesis; Self-Serving Bias

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DEFENSIVE PESSIMISM

Definition

Defensive pessimism is a strategy people can use to manage their anxiety. Those who use the strategy feel anxious and out of control as they think about an upcoming situation. In response to those feelings, they set pessimistic expectations about how things will go, and they mentally rehearse all the things they can think of that might happen. Thinking in specific and vivid terms about things that might go wrong helps these individuals focus on what they can do to prevent the disasters they imagine.

Defensive pessimism is an example of an affect regulation strategy. These strategies describe the ways that people try to handle their emotions in everyday life. The strategy of defensive pessimism prevents anxiety from interfering with what individuals want to accomplish, and those who use the strategy typically perform well.

Varieties of Pessimism

Defensive pessimism is different from other kinds of pessimism, such as dispositional pessimism (also known as trait pessimism) and attributional pessimism (which focuses on how people interpret past negative events). *Dispositional pessimism* refers to the general tendency to have negative expectations about future events, while *attributional pessimism* refers to whether you think past negative events were caused by internal, stable, and global factors (i.e., the causes were internal to you, they won't change over time, and they'll affect everything). Both of these kinds of pessimism exert a general influence on behavior in most situations. In contrast, defensive pessimism is more specific and more focused on the process that describes how individuals' expectations in a particular situation are connected to what they do. Defensive pessimism and other affect regulation strategies are similar to coping strategies, except that they do not typically refer to how people cope with particular external events or crises (e.g., bereavement or severe illness). Instead, they focus on everyday thoughts, feelings, and motivations, such as how a person deals with feeling anxious before giving a speech or meeting a blind date. If an individual has different goals or different feelings or a different outlook in one kind of

situation than in another, this perspective would predict that the individual would use different strategies in those different situations. Thus, a person might use defensive pessimism in work-related situations but not in social situations, or vice versa.

How Defensive Pessimism Works

Students are sometimes anxious about their exams. Students using defensive pessimism would be likely to convince themselves that they were certain to fail miserably on the next test. A defensive pessimist would then imagine discovering incredibly hard questions that refer to obscure facts, or sitting down to take the test and being unable to remember anything. This negative thinking helps those using defensive pessimism to figure out what they need to do to prevent the bad things that they have played through in their minds from actually happening. The thinking-through process accomplishes two things. It motivates defensive pessimists to focus on action instead of their anxious feelings, and because the process is typically detailed and specific, it functions as a guide to planning effective action. Potentially intimidating goals (e.g., "do well on a really hard exam") are broken into smaller, concrete steps (e.g., "gather all the reference materials at your desk") that are less intimidating and easier to accomplish. Defensive pessimism is similar to some of the techniques that clinicians and counselors use to help anxious people or those who are troubled by procrastination or lack of motivation.

Evidence

Most of the research on defensive pessimism contrasts it with a strategy called *strategic optimism.* Strategic optimism is typically used by people who do not feel anxious. These individuals set high expectations and actively avoid thinking about what might happen in an upcoming situation. Several studies have been done to compare defensive pessimism and strategic optimism, and most show that both strategies work well when they are used in appropriate situations. Some conditions, however, facilitate defensive pessimism but interfere with strategic optimism, while others facilitate strategic optimism and interfere with defensive pessimism.

For example, one study found that participants who typically use defensive pessimism performed better in a dart-throwing game when they listened to

an audiotape prior to their game that mimicked the thinking-through part of defensive pessimism. In contrast, if they listened to a relaxation tape designed to prevent them from thinking about the upcoming game, they performed more poorly. Exactly the opposite happened for those using strategic optimism: They did better in the relaxation tape condition and worse in the thinking condition. Putting those who use defensive pessimism in a better mood, encouraging them to be more optimistic, or otherwise distracting them from using their strategy also leads to poorer performance. Results such as these suggest that defensive pessimism works well for those who use it, while encouraging them to use a more optimistic approach is not helpful. Other research shows that anxious people who use defensive pessimism do better in a variety of ways than anxious people who do not.

Implications

Defensive pessimism research demonstrates how people are able to develop effective ways of managing their anxiety so that it does not interfere with their performance. It also implies that there are many paths that individuals can take to succeed.

Defensive pessimism research shows that many variables can influence the costs and benefits of a strategy, and no strategy is likely to be effective at all times for all people. In the United States, optimism is highly valued, and pessimism is considered less desirable. In Japan, China and Korea, however, optimism is less valued in social interactions, and pessimism is considered more appropriate. Defensive pessimism may be more socially accepted in those contexts and may have fewer costs, while strategic optimism may have fewer benefits. Different strategies may work best in different contexts, in response to different emotions, or for different people.

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See also Affect; Coping; Self-Regulation

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DEINDIVIDUATION

Definition

Deindividuation theory was developed to explain the violence and irrationality of the crowd. How does a group of seemingly normal individuals become an unruly mob? According to deindividuation theory, the anonymity and excitement of the crowd make individuals lose a sense of individual identity. As a result, crowd members cease to evaluate themselves, and they become irrational and irresponsible. All of this makes the crowd fickle, explosive, and prone to antinormative and disinhibited behavior.

But, despite a large amount of research, there is little support for deindividuation theory. Alternative approaches suggest that crowd behavior is not due to a loss of identity but to a transition to a collective (social) identity. The remainder of this entry outlines the theoretical evolution of deindividuation theory, summarizes the research to date, and highlights an alternative perspective.

Theoretical Evolution of Deindividuation

Deindividuation theory can be traced back to some of the earliest works of social psychology. In his 1895 book *La Foule* (The Crowd), Gustave Le Bon described how the crowd psychologically transforms the psychology of its members. Anonymity, suggestibility, and contagion turn a gathering of individuals into a *psychological crowd.* The collective mind (dominated by primitive instincts rooted in our *racial unconscious*) takes possession of individuals. As a result, rational self-control ceases, and individuals become unthinking, fickle, and suggestible; that is, they become inferior forms of evolution. The individual submerged in the crowd thus becomes a mindless puppet capable of performing any act, however atrocious or heroic.

Although many have criticized Le Bon's theory and his politics—the two are not unrelated—the influence of *La Foule* in science and society has been huge. His book is a scientific bestseller. But Le Bon was also controversial. He was popular with politicians of the right, including Benito Mussolini, Joseph Goebbels, and Adolf Hitler. Although one should not blame Le Bon for the atrocities of fascism, his writings did blend science with a shot of far-right politics. His analysis of the crowd was clouded by fears of communism and trade unionism; he also gave race a prominent place in his theory.

As a result of his politics, Le Bon is rarely credited for his contribution to social psychology. But when Leon Festinger, Albert Pepitone, and Theodore Newcomb coined the term *deindividuation* in 1952, they borrowed core ideas from Le Bon. Their starting point was Le Bon's characterization of the crowd as irrational, disinhibited, and antinormative. What psychological process could explain this? The answer lay in the lack of accountability in the crowd, inducing a feeling among people in the crowd of being unaware of themselves. This process is called deindividuation.

Over the subsequent decades, deindividuation theory was developed and expanded. Interestingly, the psychological process that deindividuation referred to gradually shifted. By the 1990s, deindividuation had become a loss of awareness of the self. But both aspects of what became known as deindividuation (lack of accountability and lack of self-awareness) were processes already identified by Le Bon.

In other ways, deindividuation theory did move away from Le Bon. The most important difference is that deindividuation is defined as an absence of individual identity. Le Bon argued that the crowd replaces individual identity by a collective mind. But the collective mind plays no role in deindividuation theory. In fact, deindividuation theory did not offer any systematic analysis of social influence to explain how the actions of the crowd were guided or controlled.

Deindividuation Research

In the 1970s, deindividuation became a popular area in group research. Many laboratory studies tested the prediction that anonymity leads to disinhibition. Often participants were dressed in uniforms or cloaks and hoods to render them anonymous, and they were placed in a situation where they could display aggressive or antinormative behavior (as in the Stanley Milgram's studies of obedience). Their actions were compared with a plain-clothed control group. Unfortunately for deindividuation theory, the empirical support was inconsistent. Overview articles written in 1977 and 1980 concluded that there was virtually no evidence for the psychological state of deindividuation.

Partly to overcome these obstacles, the focus of deindividuation theory moved away from anonymity during the 1980s. Most studies from that period induced

deindividuation by getting participants to focus attention outward in other ways. But despite more and more extreme (and increasingly contrived) experimental designs, many studies simply failed to support deindividuation theory or reported contrary results. A *meta-analysis* (combining all experimental results in one overarching analysis) of deindividuation studies conducted in 1998 concluded that large groups and crowded anonymous settings do not increase disinhibition and antinormative behavior. Even the reduction of self-awareness in more direct and invasive ways does not yield consistent evidence of disinhibition. Four decades of research failed to confirm the theory.

Reconceptualizing Deindividuation

To explain the failure of deindividuation theory, researchers revisited its starting assumptions about crowds. These were largely based on Le Bon, but he, as noted, was strongly biased against crowds, seeing them as a left-wing threat to civilization. He claimed *all* collective behavior was irrational. But if Le Bon's portrait of the crowd is wrong, then deindividuation theory set out to explain the wrong phenomenon.

Systematic research of crowds throughout history shows that Le Bon's characterization of crowds was wrong. Although almost everyone is appalled by lynch mobs, Kristallnacht, and the Rwandan genocide, we should not let our horror and fears at the outcome cloud our analysis of the process. Violence in crowds is very rare and usually a last resort when other means of action are exhausted. But when it does occur, crowd historians have witnessed preciously little chaos and randomness. Most crowds behave orderly and restrained. Even when they loot and pillage and rape, crowds display a considerable amount of organization and structure to their atrocities. Far from blindly pursuing destruction, the crowd is normally propelled by moral beliefs and consensus. Moreover, its violence is not random but targeted and symbolic of its purposes (e.g., Islamist crowds would attack Western tanks or non-veiled women but not their own mosques). Of course there are cases in which the moral principles of the crowd are completely alien to ours, and their logic might be warped. But to advance understanding of crowd psychology, it is important to acknowledge that, to the members of the crowd, their actions make sense.

The implication for crowd psychology is profound: Collective behavior (however atrocious) can be under conscious control. Le Bon's observation that crowd members are somehow automatically and inevitably mentally incapacitated and irresponsible is simply false. In some sense, this is a disturbing (if unsurprising) conclusion—it means that people are capable of committing the vilest atrocities willingly. But in another sense, it is constructive and positive: If crowd members make conscious decisions about how to act, then we can influence their behavior and hold them personally responsible if they violate the law. It also means that we can set out to provide a better explanation for collective behavior, namely, one that tries to understand how the actions of the crowd are socially regulated (rather than why they are chaotic).

Taking this new perspective, a large body of field research of crowds has noted that group norms inform collective action. Other field research has noted that crowd members act as a collective identity (which also comprises a set of norms). Yet more field research has documented that collective identities emerge and change in an intergroup dynamic (e.g., between demonstrators and police). It follows that the police can influence the crowd by changing its tactics. Insights from this research have had a major impact on public order policing in Europe, and these new strategies seem to pay off—"football hooliganism" has declined considerably in recent international matches.

These new insights have also been tested in experimental research of deindividuation effects. Results are broadly consistent with field studies of crowds and historical evidence. Thus, the settings which were originally thought to "deindividuate" participants were actually making them more responsive to situational norms. For example, making participants anonymous by dressing them in cloaks and hoods leads to greater aggression. But dressing them in nurses' uniforms reduces it. Anonymity does not render people unthinkingly violent. Rather, anonymity increases their responsiveness to the normative cues present in their immediate environment.

Put together, experimental and field research suggest that crowd behavior is guided by a collective identity that emerges in the crowd. This common identity may become accentuated or polarized if an opposing group (such as the police) acts upon the crowd as if it were one, for example, by deploying indiscriminate tactics of crowd control. It is this collective identity which normatively regulates the actions of individuals in the crowd and which gives them a common goal.

In conclusion, social psychologists' understanding of deindividuation has advanced enormously. Contemporary studies of collective action have moved away

from the assumption that crowd members lose their identity. Instead, collective action is explained as the result of "normal" processes of social influence and intergroup relations. In this contemporary perspective, deindividuation is the transformation of a collection of distinct individuals into a group with a collective identity.

Tom Postmes

See also Aggression; Crowding; Group Decision Making; Group Identity; Self-Awareness; Stanford Prison Experiment

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DELAY OF GRATIFICATION

Definition

Delay of gratification requires resisting the impulse to take an immediately available reward, in the hopes of obtaining a more valued reward in the future. For example, a person who wakes up feeling tired can make the impulsive choice of going back to sleep or can delay gratification by getting up, making coffee, going to work, and hence feeling productive and alert. The ability to delay gratification is an essential to regulating or controlling oneself.

Background

The dilemma of whether to give in to temptation or to resist in favor of a long-term benefit has plagued humans from the beginning of time. It has been discussed in every major philosophical and religious tradition. Best known to those of Judeo-Christian background is the story of Adam and Eve eating the forbidden fruit. By giving in to this very first temptation, Adam and Eve forfeited the rewards of living under God's care in the Garden of Eden. At the same time, people gained a greater awareness of the consequences of their choices. Indeed, this awareness may be what makes human life unique.

In addition to the fundamental desires that support humans' basic needs, Henry Frankfurt, a philosopher, points out that humans form second-order desires, which are desires to change those fundamental desires. For example, a teenager falling in love for the first time experiences sexual desire but at the same time may feel a second-order desire to remain abstinent to adhere to a moral code or to avoid the risks that come with sexual activity. Second-order desires emerge from our ability to anticipate the future and recognize a long-term benefit to suppressing our immediate impulse. Indeed, the capacity to delay gratification is essential to human accomplishment and thus has become an important topic for psychological inquiry.

A Classic Experimental Situation

To study the conditions that promote delay of gratification, Walter Mischel and his colleagues designed an experimental situation in which an experimenter sets up a challenge for a child. The child is asked to choose between a larger treat, such as two cookies, and a smaller treat, such as one cookie. After stating a preference for the larger treat, the child learns that to obtain that treat, he or she must wait for the experimenter to return. The child is also told that if he or she signals the experimenter, the experimenter will return, and the child will receive the smaller treat. Thus, the smaller treat is available now, but the larger treat requires waiting. To get the larger treat, the child must resist the temptation to get an immediate treat.

This experimental situation has proven very useful both in demonstrating the importance of the ability to delay gratification and in identifying strategies that make it possible for children to delay. Children who are best able to wait in this situation at 4 years old are more socially and academically successful as high school students and they earn higher Scholastic Aptitude Test (SAT) scores. The procedure adapted for adolescents by Edelgard Wulfert and his colleagues has revealed that middle and high school students who

waited a week for a monetary reward earn higher grades, show less problem behavior in school, and are less likely to use cigarettes, alcohol, and other drugs than their peers who chose not to wait.

The Warm/Cool Model

By varying the situation, researchers have learned what enables children to wait effectively. Waiting is made more difficult when children attend to the *hot* or emotional aspects of the reward; waiting is easier when children attend to the *cool* or intellectual aspects of the situation. For example, children who are told to think of marshmallow rewards as little fluffy clouds are better able to wait than those who are told to think of the sweet, chewy texture of the marshmallows.

Good waiters have learned ways to distract themselves from the hot rewards and instead activate their cool systems. A child with a good ability to delay might sing a happy tune to him- or herself and look around the room while waiting. A child with a poor ability to delay might instead focus on the cookie and its satisfying sweet taste. Children improve in their cooling strategies over time. Almost all adolescents can easily endure the 10-minute wait that is very challenging for a preschooler.

Unfortunately, the cool system is most difficult to access when it is needed most. Stress impairs the ability to delay gratification. The first semester in college, for example, when it would be quite advantageous to control urges to drink and eat excessively, is a time when these urges are frequently indulged. In addition, chronic stress during childhood impairs the development of the ability to delay gratification.

This program of research has gone a long way toward mapping how people's ability to delay gratification develops and has highlighted just how useful waiting can be. It does not, however, address people's capacity to use this ability judiciously.

Delay as a Motivational Tendency

Rather than conceptualizing delay of gratification as an ability, Jack Block, David Funder, and their colleagues have identified it as one expression of ego control, a person's more general tendency to inhibit impulses. On the low end of this continuum is the undercontrolled individual who spontaneously expresses his or her wants, without concern about the future. On the high end is the overcontrolled individual who restrains the self, even when it is not necessary. Both undercontrol and overcontrol are maladaptive. The undercontrolled individual is unable to work toward long-term goals, such as pursuing a challenging career path. The overcontrolled individual misses opportunities to experience pleasure and express feelings.

To measure this tendency to delay, these researchers developed an experimental situation in which children are shown an attractively wrapped present and told that it is for them, but that it will be set aside while they work on a puzzle. Delay of gratification is measured by the degree to which the child resists attending to and opening the gift. It is clear to the child that he or she will receive the gift regardless of his or her behavior, and so in this situation, delay behavior is not necessarily adaptive.

Gender Differences

Interestingly, delaying gratification in this experimental situation has more positive implications for girls than for boys. Girls who delay are described by adults who know them well as "having high intellectual capacity" and being "competent" and "resourceful," while those who do not delay gratification are described as being "emotionally labile" and "sulky or whiny." Boys who delay gratification, on the other hand, are described as "shy and reserved," "obedient," and "anxious," while boys who do not are described as "vital, energetic, and lively" and "self-assertive." These differences may reflect the value our culture places on self-control for girls, while revealing a cultural acceptance of a certain degree of impulsivity among boys. In this way, the culture may encourage boys to develop behavior patterns that can cause them many problems later in life.

Clearly then, waiting is not always rewarded, and it can be a tricky business, especially for boys, to learn when to wait and when to indulge. Hence, in real life, delay of gratification is a function of both ego control and what these researchers call *ego resiliency*, or the capacity to be flexible and skillful in making social decisions. Such decisions can be more complicated than they appear at first.

The Behavioral Economics Approach

The clever approach taken by Howard Rachlin illuminates the logic that leads to a cycle of impulsivity, even when the delayed alternative is clearly advantageous in the long run. In a self-control dilemma, the impulsive choice will always produce greater pleasure. The overeater, for example, will be given

a boost by a tasty snack. Whether the overeater is in a festive mood or in a depressed state, that tasty snack will make him or her feel better than he or she presently feels. The problem, of course, is that too many tasty snacks will eventually make the overeater miserable.

Even if the overeater has accepted the goal of lowering his or her calorie intake, having the snack now can be justified. This one last snack will not make a difference. After it, the overeater can abide by his or her long-term intention and derive the health and appearance benefits of a lower weight. And so it goes, with the short-term option often having more value in the present than the delayed option, leading the unwitting individual down the primrose path to addiction.

Implications

Given the emotional appeal of the short-term option, it is impressive that children learn to wait. Mischel's work has shown that it is a well-developed cool system that allows them to do so. Funder and Block point out that people are naturally inclined toward hot or cool responses, and that adaptive responding depends on our ability to know when waiting makes sense. According to Rachlin, knowing is not enough. People need to commit to adaptive patterns of action rather than considering actions individually. In doing so, they are working together with their future selves to create a life of the highest subjective value over time. While challenging, such a quest for happiness is a uniquely human opportunity.

Regina Conti

See also Ego Depletion; Self-Regulation

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DEMAND CHARACTERISTICS

Definition

Demand characteristics are any aspect of an experiment that may reveal the hypothesis being tested or that may cue participants as to what behaviors are expected. Cues that may reveal the true purpose of an experiment can be embedded in information conveyed in the solicitation of participants, instructions given to participants, the tone of voice of the experimenter, gestures used by the experimenter, feedback given to participants (e.g., feedback about performance or personality characteristics), the laboratory setting, the design of the study, or rumors spread by others who have participated in the study.

The possibility that demand characteristics are present within a study is problematic. If participants guess what the hypothesis is, they might not act naturally, causing the results of the experiment to be inaccurate. The presence of demand characteristics could even lead to the good subject effect, where participants are overly cooperative and behave in such a way that confirms the hypothesis of a study. Put another way, if an experiment suffers from demand characteristics, then its findings are considered neither valid nor meaningful. Demand characteristics can ruin an experiment.

Evidence

One study demonstrated how demand characteristics could influence the outcome of an experiment by recruiting participants for what they believed to be a sensory deprivation study. In this study, participants sat in a small but comfortable room for 4 hours. Participants in the experimental group, who were asked to sign a form releasing the experimenter from liability if anything happened to them during the experiment, and given a "panic button" to push if they felt overly stressed by the deprivation they were led to believe they would experience, exhibited signs of distress. Those in the control group, who did not sign a release form, were not given a panic button, and were not given the expectation that their senses were being deprived, did not exhibit signs of distress.

Reducing Demand Characteristics

There are several ways to reduce demand characteristics present within an experiment. One way is through

the use of deception. Using deception may reduce the likelihood that participants are able to guess the hypothesis of the experiment, causing participants to act more naturally. Experimenters can also conduct a manipulation check, in which they ask participants what they thought the true purpose of the study was. This allows experimenters to assess whether or not participants correctly guessed the hypothesis of the study. A third way to reduce demand characteristics is to include a placebo control group in the experiment. Those in the placebo control group think they are receiving treatment (e.g., drug X), but in reality they are not (e.g., a sugar pill). Finally, experimenters can conduct field research, research that takes place outside of the laboratory in a real-world setting, to reduce demand characteristics.

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See also Deception (Methodological Technique); Reactance; Research Methods

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DEPENDENCE REGULATION

Definition

Dependence regulation refers to people's tendency to adjust how close they allow themselves to be to a significant other to match the perceived risks of rejection. People risk greater closeness when they are more confident that their relationship partner accepts them and regards them positively (and the risk of rejection is perceived to be lower). In contrast, people find less to value in relationships where they are more uncertain or doubtful about the other's regard for them (and the risk of rejection is perceived to be higher). People regulate dependence so that they can protect against the potential pain of rejection in advance by devaluing relationships where rejection seems likely. After all, it should hurt less to feel rejected if people can convince themselves that they did not really care all that much about the partner that hurt them in the first place.

Background and History

Psychologists interested in studying bonds between parents and children and between adults in romantic relationships have long recognized that relationships are inherently risky. Depending on another person, and coming to love and value them, gives that person tremendous power over one's emotions and welfare. Having one's needs met by a significant other can be a great source of happiness, but having one's needs ignored by that same significant other can be a great source of unhappiness. Consequently, situations of dependence—situations where one person relies on another person to meet his or her needs—raise anxieties about rejection and disappointment.

Imagine an interaction between spouses, Harry and Sally. When Harry has broken a promise to spend an evening out with Sally, Sally must decide whether to risk letting her welfare depend on Harry's actions again in the future. Deciding not to trust Harry's promises protects Sally from feeling rejected or let down in the future. However, such a cautious or self-protective choice also limits Harry's future opportunities to demonstrate his trustworthiness, putting the well-being of the relationship at greater risk.

Relationships thus present a central context where two fundamental motives—the need to protect against the potential pain of rejection and the need to establish satisfying connections to others—can frequently conflict. For people to put concerns about rejection aside psychologically, they need to be able to give themselves some sort of assurance that the risks of rejection are minimal. A sense of confidence in a relationship partner's positive regard and caring provides the psychological insurance policy people need to establish and maintain satisfying and fulfilling connections to others.

Evidence

To establish the needed level of confidence in a relationship partner's positive regard and acceptance, people need to believe that this partner sees positive

qualities in them worth valuing. To feel confident of Harry's regard, for instance, Sally needs to believe that Harry sees her as warm, and smart, and responsive. Once established, this level of confidence in a partner's regard has a transforming effect on relationships.

Dating and marital relationships and parent–child relationships generally thrive when people both feel and are more valued by their relationship partner. For instance, in both dating and marital relationships, people report greater satisfaction and less conflict the more positively they believe their partner sees their traits, the more loved they feel, and the more positively their partner actually regards them. As for the qualities people attribute to a romantic partner, people in both dating and marital relationships are more likely to see the best in their partner's traits when they believe their partner loves and values them. Feeling positively regarded by a partner also predicts increases in satisfaction and decreases in conflict as relationships continue over time.

Implications

Unfortunately, some people do not have an easy time believing that their partner loves and values them. In dating and marital relationships, people who generally feel badly about their own worth—that is, people with low self-esteem—dramatically underestimate how much their partner loves and values them. Children with low self-esteem also underestimate how much their mothers love and value them. In contrast, people with higher self-esteem better appreciate how much others value them.

For people with low self-esteem, unfulfilled needs for a partner's positive regard and approval then create substantial difficulties within their relationships. First, feeling undervalued, people with low self-esteem look to specific events in their relationships to try to figure out whether their partner really cares about them. However, they are much more likely to read into negative than positive events. For a low self-esteem person, a routine event, such as a conflict or a partner being irritable, then exacerbates the fear that their partner does not really care about or value them. In fact, low self-esteem people tend to perceive rejection in situations where their partner may be behaving quite benignly. Low self-esteem people then protect themselves against such heightened anxieties by finding greater fault in their partner and by reducing closeness. By lashing out in return, low self-esteem people can effectively diminish the pain of this perceived rejection. Unfortunately, however, such reactions then have the effect of annoying and upsetting a partner who was not actually upset in the first place.

A dramatically different sequence of events is likely to occur for someone with high self-esteem. People with high self-esteem are not likely to be on the lookout for problems, because they are generally more confident of their partner's positive regard and love. Instead, they are able to mentally transform negative events in their relationships, seeing even events like conflicts as a testament to their partner's love and caring. In situations where they feel hurt or rejected by their partner, people with high self-esteem also resist the impulse to hurt the partner in return. Instead, they take such events as an opportunity to draw closer. Consequently, people with high self-esteem are better able to cope with relationship ups and downs. An understanding of dependence regulation dynamics can be applied to explain why some people are involved in less satisfying interpersonal relationships than others.

Sandra L. Murray

See also Need to Belong; Positive Illusions; Rejection; Rejection Sensitivity; Self-Esteem

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DEPRESSION

Definition

Depression is a common disorder primarily characterized by either a low or depressed mood or a loss of interest or pleasure in nearly all activities. Many additional symptoms are often present in the disorder, such as changes in weight, appetite or sleep patterns, fatigue, difficulty with concentration or decision making, moving more slowly than usual or agitation, feelings of worthlessness or guilt, and suicidal thinking. To receive a diagnosis of major depression, an individual must have at least five of these symptoms, causing significant impairment in functioning, nearly every day for at least 2 weeks. Biological, cognitive, and interpersonal factors have all been shown to play a significant role in the development and treatment of the disorder.

Background and Significance

In addition to being extremely common, depression also has serious consequences. Up to 25% of individuals may experience depression at some point in their lives, and the disorder leads to significant problems in social and occupational functioning and heightened risk for suicide. It is also recurrent, with individuals who have experienced one episode of depression having a very high risk for future episodes. No one approach to the study of depression can provide a complete picture of the disorder, and different areas of research provide a variety of insights. Common perceptions of depression often emphasize the role of biological factors and medical treatments, and neurotransmitters, such as serotonin, have been found to be different in individuals who are experiencing or are at risk for depression. Genetic factors may also play a role, as those with relatives who have the disorder are also at somewhat higher risk. In addition to these biological factors, however, psychological factors have been found to be very important in understanding the development and treatment of depression, and this entry will focus on current research on the cognitive and interpersonal factors involved in the disorder.

Studies conducted on college students have been an important part of the development of all of the major psychological theories of depression. Many social psychologists and other depression researchers are interested in examining the possible origins of depression; to this end, they examine mild levels of depression experienced by college students and its association with their cognitions or interpersonal relationships. While these mild levels of depression are very different from the full syndrome of clinical depression, small, theoretical studies often provide the first information supporting a new theory of depression, which is later tested on larger and more diverse samples. Understanding how mild symptoms of depression increase over time and in response to a variety of factors provides a good starting point for more intensive clinical research on depression.

Psychological Theories of Depression

Cognitive Processes and Depression

One of the most common features of depression is its impact on an individual's thoughts, and a persistent pattern of negative thoughts plays a prominent role in the disorder. The cognitive theories of depression describe how an individual's pattern of thoughts or interpretations may increase risk for depression as well as being a part of, and helping to maintain, an episode of depression after it has started.

Attributions, Hopelessness, and Depression. One of the earliest cognitive developments in the study of depression was based on Martin Seligman's work on learned helplessness. This research proposes that an individual's interpretations, or attributions, about the causes of events can lead to a feeling of helplessness, which can lead to depression. Individuals who tend to make internal (i.e., the event was caused by something about the self), stable (the causes of the event are unlikely to change over time), and global (the causes of the event also have a negative impact on other areas of the individual's life) are said to have a negative attributional style, which is associated with depression. The more recent hopelessness theory of depression proposes a process by which an individual's attributional style may lead to the development of depression in some individuals. A negative attributional style places an individual at risk for depression, and in these people, the occurrence of negative life events can lead to attributions causing hopelessness, which then leads to depression.

Beck's Cognitive Theory of Depression. Another cognitive theory of depression was developed by Aaron Beck. Beck's cognitive theory of depression focuses on the persistent negative thoughts of depressed individuals.

In this theory, individuals who have, or are at risk for, depression have negative mental schemas, or automatic patterns of viewing themselves and the world. Their experiences are filtered through these schemas, leading to certain automatic negative thoughts. These distorted thoughts about the self, world, and future are automatic in a variety of situations, and the depressed person has difficulty coming up with more positive, adaptive thoughts which might help reduce the symptoms of depression.

Cognitive Therapy for Depression. Cognitive theories of depression have led to the development of cognitive therapy, one of the most successful and common forms of treatment for depression. Cognitive therapy works to identify and challenge the automatic negative thoughts of the depressed individual. Over time, the negative cognitive style of the individual becomes less biased, and depression is reduced. Cognitive therapy is highly effective, and clinical trials have shown it to be at least as effective as medication in treating depression and preventing its recurrence.

Interpersonal Processes and Depression

Depression has a significant negative impact on interpersonal processes and relationships. Patterns of negative interpersonal behaviors, leading to increased stress or even rejection, have been observed in depressed individuals and may be a part of the process that maintains a depressive episode.

Feedback-Seeking Behaviors and Depression. Research has shown that depressed individuals are highly interested in different kinds of feedback from others. One such interpersonal process that has been linked to depression is excessive reassurance-seeking, which was initially described as part of James Coyne's interpersonal theory of depression. Some individuals who are experiencing, or are at risk for, depression may continually seek reassurance from others as to their own worth. This process has been shown to lead to rejection by others and increased depression. Another, opposite behavior has also been associated with depression and is based on William Swann's self-verification theory. This theory states that individuals desire feedback from others that will maintain their consistent views about themselves. As this theory predicts, research has shown that depressed individuals desire, and may even seek, negative feedback from others that confirms their negative self-views. Even though desired, negative feedback may lead to increased feelings of depression. Additionally, the process of feedback-seeking may be aversive to others and has been associated with increased rejection.

Stress Generation and Contagious Depression. Depression has a strong impact on the relationships and experiences of the depressed individual. Negative life events generally have been found to place an individual at risk for depression, but one unusual effect that has been observed in depression is stress generation, which refers to the tendency for depression to lead to increases in negative life events. The processes involved in stress generation are unclear, but the interpersonal stress and rejection that can be caused by depressive behaviors may play an important role. Depression has also been found to be "contagious," in that the significant others of depressed individuals are likely to experience symptoms of depression. All these negative interpersonal processes put strain on an individual and his or her relationships and may operate in a cyclical way in the development and maintenance of depression.

Interpersonal Therapy for Depression. Many different interpersonal processes are involved in depression, and although no therapy has been developed to specifically address the individual processes, interpersonal therapy for depression is a type of psychotherapy that naturally addresses some of these issues. Interpersonal therapy examines the interpersonal patterns of a depressed individual's life and then focuses on specific interpersonal problem areas. Interpersonal therapy has been studied in clinical trials and has been shown to be effective in treating depression.

Implications

Diverse psychological and biological processes play a role in depression. Negative cognitive and interpersonal processes have been shown to be prominent aspects of the disorder and may also act as risk factors for the disorder. Depressive thoughts and interpersonal behaviors may work together in contributing a negative cycle, maintaining depression and adversely affecting many areas of an individual's life. Despite this, psychotherapies have been developed that can alleviate many of these problems and are highly effective in the treatment of the disorder.

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See also Learned Helplessness; Schemas; Self-Verification Theory; Stress and Coping

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DEPRESSIVE REALISM

Definition

Depressive realism refers to the findings that depressed individuals tend to be more accurate or realistic than nondepressed persons in their judgments about themselves. Specifically, research suggests that nondepressed people are vulnerable to cognitive illusions, including unrealistic optimism, overestimation of themselves, and an exaggerated sense of their capacity to control events. This same research indicates that depressed people's judgments about themselves are often less biased.

Context and Importance

Depressive realism is provocative for two reasons. First, it contradicts both the intuitions of common sense and the mental health profession's assumption that mental health should be associated with a high capacity to perceive and test reality. Second, depressive realism also presents a serious challenge to cognitive theories of depression, which have become increasingly important over the past 30 years. According to cognitive theories, depressed individuals make judgments about themselves that are unrealistic, extreme, and illogical, and cognitive therapy for depression is designed to correct these irrational perceptions. If depressed people already view themselves realistically, their thought patterns may not need the correction that cognitive therapists propose to provide. In fact, there is good evidence that cognitive therapy works to alleviate depression, but it may work by training patients to construct optimistic illusions about themselves rather than by teaching them to think more realistically.

The study of depressive realism also may serve as a bridge between clinical and experimental psychology. Unlike neuropsychologists and visual perception researchers, clinical psychologists rarely have studied abnormal functioning to develop theories about normal psychology. However, an understanding of depressive realism may allow psychologists and researchers to see the adaptive functions of optimistic biases in normal human thinking.

Evidence

What is the evidence for depressive realism? In one of the first studies, depressed and nondepressed undergraduates were asked to judge their degree of control over an outcome of a button-pressing task. The experimenters systematically varied the actual degree of control as well as the frequency and valence (good or bad) of the outcome. Nondepressed students judged incorrectly that they had control over good outcomes but not bad ones. Depressed students might have been expected to show the opposite bias; instead, they were consistently accurate judges of their control over events. Many other studies of depressed children, college students, and older adults have confirmed these results. Experiments also show that depressed people are better than average at predicting events in their own lives, especially misfortunes. The participants in most of these studies were only moderately depressed, but it is not clear that even severely depressed people are unrealistically pessimistic. The evidence is mixed; some studies have found that even patients hospitalized for depression are quite realistic about themselves.

Depressive realism and nondepressive optimistic illusions are also seen in social situations. One study found that normal individuals and psychiatric outpatients who were not depressed rated their own social competence much higher than objective observers did. Depressed patients, in contrast, agreed with the observers. There is also evidence that depressed individuals are better at evaluating the impression they make on others and that depressed mothers report their children's behavior more accurately than do nondepressed mothers.

However, depressed people are not more realistic in judgments about others. Studies consistently find that although nondepressed people succumb to optimistic

illusions about themselves, they are fairly unbiased in judging others. Depressed individuals do the opposite. For example, depressed students judge their own control over outcomes accurately but judge incorrectly that others have control over good outcomes that were actually uncontrollable. In another study, depressed and nondepressed undergraduates and psychiatric patients were asked to predict whether the roll of two dice would have a successful outcome, defined as a 2, 3, 4, 9, 10, 11, or 12 (a 44% chance). When subjects rolled the dice themselves, depressed students and patients made more accurate predictions. When experimenters rolled the dice, nondepressed students and patients guessed more accurately.

Does depression cause people to be more realistic about themselves, or does realism about the self make one more vulnerable to depression? Research suggests that it works both ways. When experimenters used mood inductions to make nondepressed students feel temporarily depressed and depressed students feel temporarily elated, their susceptibility to illusions of control was reversed. But, individuals with optimistic illusions of control are also less vulnerable to depression under stress. After performing a task measuring their judgments of control, undergraduates were asked to solve problems with no answers. Their mood was assessed immediately before and after the inevitable failure on the unsolvable problems. At this time and a month later, they also completed a checklist of depressive symptoms. At the second time, they also listed stressful life events they experienced in the previous month. The students who were realistic about their control over outcomes on the original task showed more symptoms of depression after they failed to solve the unsolvable problems and more depression a month later if they experienced many stressful events during the month. Students with strong illusions of control on the original task did not become more depressed when they failed to solve the problems or a month later even if they had experienced many negative life events. Thus, depression and realism appear to be interdependent.

Implications

The nondepressive tendency to engage in overly optimistic thinking about oneself may have adaptive behavioral and emotional consequences. Optimistic illusions may function to enhance self-esteem, increase resilience under stress, increase capacity for persistence, and decrease vulnerability to depression. It is ironic from the standpoint of the cognitive theories of depression, but maladaptive features of depression such as low self-esteem, sadness, and decreased persistence might result from the loss of normal, healthy personal illusions.

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See also Depression; Illusion of Control

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DEVIANCE

Definition

Deviance is a broad term meant to signify behavior that violates social norms. The origins and functions of deviant behavior have long been of interest in the social sciences, with early sociological theories influencing the psychology theories that followed.

Sociological Theories

Structural Functionalism

One broad sociological approach to the study of deviance was structural functionalism. This viewpoint focused attention on social institutions in societies. Social institutions are organizations that fulfill vital roles in society and that promote the continued existence of society (e.g., the criminal justice system, the courts, the family). Institutions bind individuals together by promoting social norms that define right and wrong.

Émile Durkheim, an early structural functionalist, introduced the notion of *anomie,* a precursor to modern conceptions of deviance. Anomie was conceived of as a psychological state created when social norms fail to affect how an individual acts. Robert Merton

expanded on the concept of anomie by showing two dimensions upon which individuals might deviate from social norms. First, they can reject the normative goals of society (e.g., wanting to support a drug habit rather than a family). Second, they can reject the normative means of achieving goals (e.g., stealing money rather than earning it from an employer). Alternatively, an individual can seek radical changes to society, changes that alter its normative goals and means. As an example, an American citizen might reject his or her society's embrace of capitalism in favor of community and might advocate for socialist policies as a way of promoting this new social agenda.

The strength of structural functionalism was that it drew attention to the role that society plays in defining right and wrong. Deviation from social norms was not viewed as a property inherent to certain actors. It instead was viewed as something social institutions create to preserve the society. The major weakness of this approach was that it did not elaborate on the individual-level mechanisms that cause people to deviate. In fact, structural functionalists tended to question whether one could understand the whole (society) by examining the parts (the individual).

Symbolic Interactionism

Some scholars were interested in the component parts, and this contributed to the rise of symbolic interactionism within sociology. Symbolic interactionists examine how individuals construct social meaning through their interactions with other people. A key concept is the *looking-glass self,* coined by Charles Horton Cooley. Accordingly, individuals cannot find a personal identity by looking inward but must instead adopt the viewpoints of other people. The tendency to incorporate the opinions of others into the self can lead to a self-fulfilling prophesy, such that individuals become the very people they are thought to be by others.

Because symbolic interactionists focus on the opinions of other people, many of these scholars have focused attention on the majority opinions found in societies. Howard S. Becker followed such an approach. He argued that social institutions create accepted labels that give meanings to actions. Over time, he argued, people come to accept the labels society gives them. For instance, a society might create the negative term *thief* as a way of deterring crime, but people who are labeled in this way (e.g., by the criminal justice system) might come to identify with their label and then commit more crimes.

Group Dynamics

Although symbolic interactionism succeeded in bringing the individual into the discussion on deviance, it largely ignored the harder question that was of interest to structural functionalists: Why do social groups categorize certain people as deviant? It was this question that early psychological theories sought to address. The most influential of these traditions was the group dynamics approach, which was started in the 1940s by Kurt Lewin and his students and colleagues at the Research Center for Group Dynamics. This perspective emphasized two broad psychological tendencies that were thought to generate pressures to conform.

The first tendency was the need for *social reality.* It was thought that individuals possess an epistemic need to possess both certain and veridical knowledge. Individuals can satisfy this need by joining groups with like-minded individuals. For this reason, groups tend to punish and reject opinion deviants, because these individuals threaten a shared social reality. The second tendency that generated conformity pressure was the desire to succeed. Social groups often form as a way of helping individuals accomplish their goals. *Group locomotion* toward a shared goal thus creates uniformity pressures within the group, and so groups that are driven to succeed should identify and then punish deviants who stand in the way.

Implications

These three broad approaches to deviance differ considerably in their assumptions, but each offers a valuable and complementary view. A structural functionalist approach emphasizes external forces that define deviance (e.g., social institutions). This draws attention to complex social systems and larger societal needs, that is, needs that occur outside the individual. A group dynamics perspective focuses attention on internal psychological forces and the individual's need to maintain a coherent social reality and to succeed. Symbolic interactionism splits the difference between these two extremes. It shares the structural functionalist emphasis on external causes (others' opinions), but it focuses attention on individual-level

mechanisms (the looking-glass self). In a way, structural functionalism and group dynamics are the most alike in that they want to reveal the ultimate cause of deviance. Structural functionalism locates this cause in the needs of societies to endure, whereas group dynamics locates this cause in the needs of the individuals to know and to grow. If symbolic interactionism is less ambitious for not seeking the true cause of deviance, it is also more generous in that it can accommodate causes that arise from society and the individual.

Hart Blanton

See also Group Dynamics; Looking-Glass Self; Normative Influence; Symbolic Interactionism

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DIAGNOSTICITY

Definition

Diagnosticity refers to the extent to which a source of data can discriminate between a particular hypothesis and its alternatives. In social situations, individuals often observe others' behaviors and attempt to form an impression about their personality and aptitudes. As part of this process, individuals test dispositional hypotheses, namely, hypotheses regarding others' traits and abilities. Diagnostic sources of data are those that discriminate between possessing a particular trait or ability and not possessing the trait or ability.

For example, consider a situation in which a new classmate, John, does not respond to your welcome greetings and you want to know what kind of person he is. You may generate a hypothesis (e.g., "John is unfriendly"), gather information to test this hypothesis, and draw an inference based on the available information. Finding out that John "yelled at a fellow classmate in public" is highly diagnostic information, because such behavior is unlikely to occur unless John is an unfriendly person. Finding out that John dislikes parties has little diagnostic value. This information cannot distinguish between the hypothesis that John is unfriendly and the plausible alternative hypothesis that he is shy, as both unfriendliness and shyness may lead John to dislike parties.

Background

When testing a dispositional hypothesis, one of two broad strategies, distinguished by the extent to which individuals consider alternatives to their chosen hypothesis, may be undertaken. One strategy, called *diagnostic hypothesis testing,* is employed when individuals search for evidence that bears on both the plausibility of their focal hypothesis as well as on the plausibility of its alternatives. By this strategy, individuals gather information that can distinguish between their chosen hypothesis and alternative ones. Once sufficient information has been gathered, their confidence in their conclusion is high only if the evidence is largely consistent with the chosen hypothesis and inconsistent with its alternatives.

In contrast to diagnostic testing, a second strategy, called *pseudodiagnostic hypothesis testing,* involves gathering and using information only according to its consistency with the chosen hypothesis. Alternative hypotheses are ignored, or it is simply assumed that information that is consistent with the focal hypothesis is inconsistent with its alternatives. In the previous example, individuals would only ask about John's unfriendly behaviors and not about his shy behaviors. They would then draw their conclusion on the basis of the extent to which the evidence is consistent with being an unfriendly person, without considering if this evidence is also consistent with other possibilities such as being a shy person. Compared to diagnostic testing, pseudodiagnostic strategy is simple, fast, and relatively effortless. However, when evidence is both consistent with the focal hypothesis and its alternatives,

pseudodiagnostic testing might lead to a confirmation bias, namely, a sense of confidence that the evidence supports one's chosen hypothesis when, in fact, alternative hypotheses may be true.

Evidence

Research by Yaacov Trope and his colleagues has demonstrated that individuals are sensitive to diagnosticity concerns when testing their hypotheses. That is, they consider alternative hypotheses when searching for information regarding a chosen hypothesis and weighing the evidence against these alternatives when drawing their inferences. For example, when individuals tested a hypothesis that a target person is an extravert, they preferred to ask questions about highly diagnostic introverted behaviors (being quiet) over questions about weakly diagnostic extraverted behaviors (engaging in athletic activities) and when testing a hypothesis that a target person is an introvert they preferred questions about highly diagnostic extraverted behaviors (being friendly) over weakly diagnostic introverted behaviors (listening to classical music). They were also more confident in their inferences when the answers to these questions provided more diagnostic evidence.

However, individuals do not always engage in diagnostic hypothesis testing. Whether individuals will engage in diagnostic or pseudodiagnostic strategies depends on cognitive and motivational resources. When individuals are distracted, their cognitive resources to process information are limited. Similarly, when individuals do not have incentive to reach an accurate conclusion, their motivational resources are low. Under such suboptimal conditions, individuals tend to perform pseudodiagnostic testing. Thus, if individuals are not motivated to reach an accurate conclusion or when they have other things on their mind, they will select and use information that only bears on their chosen hypothesis and ignore information relevant to alternative hypotheses.

Implications for Dispositional Bias

In many real-life situations, individuals' behaviors are determined more by situational constraints and less by their personal dispositions. Factors such as group pressures, social norms, and situational stressors can affect the way individuals behave. For example, a person might react aggressively following a situation of strong provocation regardless of whether that person is dispositionally friendly or unfriendly. Diagnostic testing of a dispositional hypothesis considers both the personal disposition (the focal hypothesis) and situational constraints (the alternative hypothesis) as potential causes of a person's behavior. Consequently, individuals using a diagnostic strategy will not attribute a behavior to the corresponding disposition when strong situational inducements to behave in a certain manner are present. For example, if John's reaction to your greetings occurred while he was in a hurry to class, then under diagnostic inference this behavior would not be attributed to dispositional unfriendliness since most individuals in this situation would behave in such a way regardless of whether or not they are friendly.

Pseudodiagnostic testing, in contrast, ignores alternative hypotheses and, therefore, may fail to give the proper weight to situational inducements in determining a person's behavior. Under pseudodiagnostic testing, John's behavior would still be attributed to dispositional unfriendliness, because the possibility that most individuals, not only those who are unfriendly, would have behaved in such a way when in a hurry is given little consideration. Pseudodiagnostic testing may thus produce a dispositional bias in the inferences individuals draw from others' behavior. This is particularly likely when individuals' processing and motivational resources are depleted. Under these circumstances, individuals are likely to rely on pseudodiagnostic testing and conclude that a person's immediate behavior reflects his or her corresponding personal disposition when alternative situational explanations are no less and even more likely.

Diagnosticity in Self-Evaluation

Diagnostic and nondiagnostic testing strategies are relevant to questions about one's own dispositions and skills as well. Yet, when a person searches for information bearing on one's own attributes, other motivations besides reaching an accurate conclusion might play a role. Researchers have proposed three types of motives that guide testing of self-relevant information.

One motive is self-enhancement, namely, the motive to hold favorable self views and therefore seek positive feedback as well as avoid negative feedback regarding self-relevant attributes. A second motive is self-verification, namely, the motive to affirm preexisting self views. These two motives will lead individuals to seek information that may be nondiagnostic of their abilities and personality traits. That is, when self-enhancement goals guide processing of self-relevant

information, individuals will only accept information that can bolster their self-esteem, whereas information that might expose their liabilities will be avoided or rejected. Similarly, when self-verification goals guide processing of self-relevant information, individuals will only accept information that can affirm their existing self-views, whether positive or negative, whereas information that proves otherwise will be ignored regardless of its diagnosticity.

A third type of motive that guides self-relevant information processing is self-assessment, namely, the motive to hold accurate self-views that can help one predict the outcomes of future decisions and self-improvement attempts. When self-assessment goals regulate behavior, individuals will prefer diagnostic information regardless of whether it is positive or negative. Self-assessment may also lead to undertaking intermediate difficulty tasks. These tasks are diagnostic of one's ability because success is more likely given high ability, whereas failure is more likely given low ability. Easy or difficult tasks are nondiagnostic, because success on easy tasks and failure on difficult ones are highly likely regardless of one's ability level.

As in dispositional hypothesis testing, whether one will engage in diagnostic testing of self-relevant information depends on cognitive and motivational factors. Individuals are more likely to seek diagnostic feedback when they perceive the feedback as pertaining to changeable abilities rather than fixed abilities. This is particularly true for individuals who are uncertain or think that their ability is relatively low. Another factor that has been found to facilitate diagnostic self-assessment is positive mood. Individuals in a positive mood seek positive as well as negative feedback. In contrast, individuals in a neutral or negative mood tend to prefer positive, self-enhancing feedback. It has been proposed that positive mood buffers against the immediate emotional costs of negative feedback and attunes individuals to the long-term, learning benefits of diagnostic feedback.

Ido Liviatan
Yaacov Trope

See also Decision Making; Inference

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DIFFUSION OF RESPONSIBILITY

Diffusion of responsibility is a concept that has been employed in several fruitful ways in psychology. First, consider a collection of persons, strangers, that faces an unexpected situation, such as that of a person who is suddenly in distress. Intuitively it is clear that each member of the collection of persons feels less responsibility to intervene in the situation than does a solitary individual who, knowing he or she is the sole witness, faces the same crisis alone. The solitary individual knows that if help is to come, it must come from him or her, while a witness who is a member of a crowd reasons that there are many other persons who could provide help.

Any reluctance a person has to intervene in this situation can be rationalized by this possibility. Reasons to be reluctant to intervene are present in many situations, such as fears of embarrassment for crying wolf when the situation is in fact no emergency, to fears of performing the necessary actions in an incompetent way, to fears for one's own personal safety. Social psychological research demonstrates that, in staged situations in which a victim is calling for help, this effect occurs; there is a markedly lower probability of each individual intervening as the apparent size of the group available to intervene increases.

In these experimental tests of the concept, it is usual to make the witnessing individual aware that other witnesses are also aware of the potential emergency but to make it impossible for the witness to know how the other individuals are reacting to the event. The reasoning here is that if they are aware of how the others react, this provides information about the others' definition of the event, which could also influence their reactions to it in ways not connected

with the diffusion concept. The attempt here is to model situations such as the famous Kitty Genovese killing, in which a person was killed in the courtyard of her apartment building. Neighbors at their windows were aware that other neighbors' were also witnessing the event but could not be aware of the exact reactions of the other neighbors to the event.

Diffusion of responsibility can arise in group decision-making situations as well. Assume that a decision needs to be made, and it is one of uncertainty or risk. That is, the decision outcome may be good, but it also may be bad. If the decision is made by one person, that person will worry about whether the decision he or she makes will be a bad one, because he or she will feel responsible for the poor decision. Also, others will hold that person responsible and criticize and perhaps punish that person. On the other hand, suppose that it is a group that is making a decision about what action will be taken. Again, intuitively, each individual participating in a group decision-making process will feel that he or she would not be so responsible for the joint decision outcome if the decision comes out poorly. After all, the decision would not have been made if others didn't agree with it. "So I was not really so dumb because everybody thought it was the right decision."

The diffusion idea is easily expanded to illuminate the often-observed phenomenon of social loafing. The task of a tug of war team is to win the tug of war, and the task of a group making a report in class is to turn out a really good report. But it won't surprise you to learn that people often expend less effort to achieve a goal when they work in a group than when they work alone. The reason is that they feel a diminished motivation to do their best when their own contributions to the product will be lost in the overall group product. This is why those who are clever at task design will often arrange things so that each person's true contributions to the task can be separately assessed and the group members know this is so. But in some ways, this is really nothing more than turning a group task back into a set of individual tasks. Happily, it is often not necessary to go this far to get high productivity out of the group. For instance, if the members are really committed to reaching the group goal, then social loafing is not likely to occur. It is also often possible to get efficiency gains by working in groups, by having different individuals take on the tasks that they do best.

John Darley

See also Bystander Effect; Decision Model of Helping; Social Loafing

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DILUTION EFFECT

Definition

The dilution effect is a judgment bias in which people underutilize diagnostic information when nondiagnostic information is also present. Diagnostic information is knowledge that is useful in making a particular judgment. Nondiagnostic information is knowledge that is not relevant to the judgment being made. For example, if a medical doctor were making a judgment about a patient's condition, the patient's symptoms would be diagnostic information. The doctor might also know the patient's hair color, but because this information would not be useful in judging the patient's condition, it would be nondiagnostic.

When both kinds of information are present, people tend to underrely on diagnostic information in making judgments. Thus, the presence of nondiagnostic information weakens, or dilutes, the impact of diagnostic information on judgment. The dilution effect results in less-extreme judgments than those made using only diagnostic information.

Background and History

The term *dilution effect* was first used by Richard E. Nisbett, Henry Zukier, and Ronald E. Lemley. These scientists observed that when research participants

considered both diagnostic and nondiagnostic information, they made less-extreme predictions about other people than when they considered diagnostic information alone. Michael C. Troutman and James Shanteau previously made a similar observation. They referred to the same phenomenon as the *nondiagnostic effect.* Although Troutman and Shanteau were first to report this judgment bias, it became commonly known by its later name.

The dilution effect conflicts with intuitive knowledge about how human judgment should operate. Logically, when people are given diagnostic information, they should make the same judgment whether or not they have access to nondiagnostic information. For instance, a professor's prediction of a student's future academic success should be the same if the professor knows only the student's grade point average as it would be if the professor knows both the grade point average and the student's color preference. Logically, color preference has no impact on future academic success. However, the professor is likely to underutilize information about the grade point average if color preference is also known, due to the dilution effect.

Differing explanations have been proposed for why the dilution effect occurs. It may in part be due to people's failure to distinguish clearly between diagnostic and nondiagnostic information. When people are given information and asked to make a judgment, it is reasonable for them to assume that all of the information they have been given is useful or diagnostic. Thus, they may give both kinds of information equal weight. Although this explanation raises important considerations about how the dilution effect is studied, it is not likely to account for it fully. The ability to distinguish between the two kinds of information does not seem to prevent susceptibility to the dilution effect. Even when people know that some of the information they have is nondiagnostic, it still influences their judgments.

Research relating the dilution effect to stereotyping has yielded information about another possible explanation. It may in part be due to the process by which people categorize others. In making a judgment, people may compare what they know about the person being judged to what they know about the social categories to which that person could belong. The more similar a person is to a category, the more likely that person is to be perceived as belonging to it. Diagnostic information helps in identifying a person's similarity to a possible category. Conversely, nondiagnostic information can make the person seem distinct from typical members of the category. When nondiagnostic information is present, the person seems less similar to what is known about the possible social category, and thus categorization is weakened.

Importance and Consequences of Dilution Effect

The dilution effect relates importantly to several real-life situations in which individuals must make judgments. It has been observed in a variety of settings and situations. It affects business judgments, consumer behavior, and social categorization.

Studies of financial auditing have indicated that auditors are susceptible to the dilution effect in assessing the risk that an auditee's records contain misstatements. Auditors' judgments indicate that they take into consideration nondiagnostic information, such as the auditee's field of business. This information weakens the effect of diagnostic information, such as previous misstatements in the auditee's records.

Marketers are aware that providing consumers with nondiagnostic information can decrease the extent to which they judge a product to be beneficial. When a marketing message contains information that is useful in judging a product's purported benefits as well as irrelevant information, the irrelevant information is likely to dilute the impact of diagnostic information. Consumers' likelihood of judging the product as beneficial is thereby weakened.

The dilution effect has a positive consequence in relation to stereotypes. In some circumstances, the dilution effect can reduce people's reliance on stereotypes in forming judgments. Nondiagnostic information can increase the extent to which a person is perceived as an individual rather than as a member of a social category. This occurs because information that is irrelevant to category membership reduces a person's perceived similarity to members of that category. Perceiving people as individuals can decrease reliance on stereotypes in forming judgments.

However, it would be inaccurate to conclude that the dilution effect is likely to inevitably negate the effects of stereotypes. It has been shown to decrease the impact of stereotypes on judgment under some conditions. Conversely, in other conditions, the dilution effect fails to prevent, or may even enhance, the use of stereotypes.

Celeste E. Doerr

See also Representativeness Heuristic; Salience; Social Categorization; Stereotypes and Stereotyping

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DISCONTINUITY EFFECT

Definition

The interindividual–intergroup discontinuity effect is the tendency in some settings for relations between groups to be more competitive, or less cooperative, than relations between individuals. Why is this effect referred to as a discontinuity rather than just as a difference? Unpublished research has demonstrated that variation in the number of people in an interacting pair from one-on-one to two-on-two to three-on-three to four-on-four, and so on, has found a large difference between one-on-one and two-on-two, a smaller difference between two-on-two and three-on-three, and little change thereafter; that is, there is a discontinuity between one-on one relations and two-on-two (intergroup) relations. Research has documented the discontinuity effect in both nonlaboratory and laboratory contexts.

Nonlaboratory Evidence

The nonlaboratory research has had participants record on small diaries instances of back-and-forth social interaction that fell into one of five categories: (1) one-on-one (participant interacting with another individual), (2) within-group (participant within a group interacting with other group members), (3) one-on-group (participant interacting with a group), (4) group-on-one (participant in a group interacting with an individual), (5) group-on-group (participant within a group interacting with another group). After classifying the social interaction, the participants then evaluated the interaction as cooperative or competitive. Data collected over a number of days indicated that interactions of types 1 and 2 were less competitive, or more cooperative, than interactions of types 3, 4, and 5. More specifically, there was a discontinuity effect, a difference between interactions of type 1 (one-on-one) and type 5 (group-on-group).

Laboratory Evidence

Most of the laboratory research has structured the interaction with the use of a matrix game referred to as the *Prisoner's Dilemma Game* (PDG). Within the PDG each of two players, *A* and *B,* has two choices, *X* and *Y,* yielding a total of four possible choice pairings. Typically a choice is made in isolation without knowledge of the other player's choice. Each choice pairing has a different combination of payoffs or outcomes. These payoffs or outcomes can be illustrated with U.S. dollars. If both *A* and *B* choose *X,* they both receive a moderate payoff, say $3.00. If on the other hand, one player chooses *Y,* while the other player chooses *X,* the player choosing *Y,* whether *A* or *B,* may receive $4.00 and the other player may receive only $1.00. Finally, if both players choose *Y,* they may both receive $2.00. The 2 X 2 matrix of four choice pairings thus presents a dilemma. Either *A* or *B* can increase outcomes by choosing *Y,* but if both *A* and *B* are guided by self-interest, they will receive lower outcomes than could have been obtained by mutual *X* choices. The *X* choice is a cooperative choice, and the *Y* choice is sometimes referred to as a competitive choice and sometimes as a defecting choice. If the *Y* choice is guided by greed, or an interest in increasing outcomes, the competitive label is appropriate. On the other hand, if the *Y* choice is guided by fear, or an interest in minimizing the reduction in outcomes resulting from the other player's *Y* choice, the defecting label is appropriate.

Common examples of PDG-like situations relate to being honest versus cheating, over-fishing, and pollution of the air and water. In general the PDG models situations in which individual selfishness can lead to collective detriment. Laboratory research has demonstrated that when individuals communicate

prior to each trial, they tend to be fairly cooperative. Sometimes the communication has involved face-to-face meeting, sometimes the exchange of notes, and sometimes talking through an intercom. On the other hand, groups who are required to reach consensus regarding the *X* or *Y* choice on each trial generally have been found to be less cooperative, or more competitive. Typically the communication between groups has involved the meeting of group representatives but, as with individuals, sometimes has involved the exchange of notes or talking through an intercom.

Three Questions

Three questions have been asked regarding the discontinuity effect. First, what are the mechanisms responsible for the effect? Second, what is the generality of the effect across different situations? Third, what are possible ways of reducing the effect by making groups less competitive? These three questions will be considered in turn.

Possible Mechanisms Producing the Effect

Comparison of intergroup relations with interindividual relations uses interindividual relations as a comparison control to identify the distinctive group mechanisms that may lead to the discontinuity effect. To date, evidence for five different mechanisms has been obtained. Each of these possible mechanisms can be formulated as a hypothesis. First, the schema-based distrust, or fear, hypothesis suggests that there is greater distrust in intergroup than in interindividual interactions because the actual or anticipated interaction with a group activates learned beliefs and expectations that groups are competitive, deceitful, and aggressive. Second, the social-support-for-shared-self-interest, or greed, hypothesis suggests that, unlike separate individuals, group members can obtain active support for a competitive choice. Third, the identifiability hypothesis proposes that the group context provides a shield of anonymity, allowing group members to avoid personal responsibility for a selfish-competitive choice. Fourth, the ingroup-favoring-norm hypothesis suggests that membership in a group implies normative pressure to act so as to benefit the ingroup. Fifth and finally, the altruistic-rationalization hypothesis proposes that group members can rationalize their self-benefiting competitiveness as flowing from a concern for benefiting fellow group members.

Generality of the Effect

Research on the generality question has followed either an atheoretical or a theoretical approach. Research following the atheoretical approach has found, for example, that the discontinuity effect occurs not only in the United States but also in Europe and Japan, and that the effect does not change significantly when the values in the matrix vary from those that have frequently been used to values that are increased by a factor of 10 (e.g., $0.66 vs. $6.60 for the highest possible outcome on 1 of 10 trials). Research following the theoretical approach has looked at the correlation between the outcomes for the two players across the four cells of the 2 X 2 matrix. With the PDG, the correlation is negative but can vary as a mathematical function of the ratio of the difference between column means to the difference between row means for the column player (or the ratio of the difference between row means to the difference between column means for the row player). Research has found that as the correlation becomes more negative (and higher outcomes for one player are increasingly associated with lower outcomes for the other player), intergroup competitiveness and the discontinuity effect increases. This result is consistent with the theoretical assumption that as the correlation becomes more negative, the implication of the ingroup-favoring norm becomes increasingly obvious.

Reduction of Intergroup Competitiveness

Finally, research on possible ways of reducing intergroup competitiveness has provided evidence that one possible approach is to encourage group members to think beyond the immediate situation to the long-term consequences of their behavior.

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See also Cooperation; Group Decision Making; Intergroup Relations; Prisoner's Dilemma; Trust

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Discounting, in Attribution

Definition

Attribution is the way in which people explain the causes of events or behaviors. At times, individuals must choose among different possible causes as explanations for a particular event or behavior. When people can see more than one reason for something happening, they discount, or minimize, the importance of each reason because they are unsure what the real cause actually is.

Background, History, and Evidence

Harold Kelley introduced the discounting principle in 1971 in his writings on attribution. He demonstrated how people use discounting to explain how job candidates present themselves to interviewers. When candidates act ideal in every way, observers explain that they may be showing their true personalities or may be simply conforming to what the situation demands. However, if they reveal themselves as not ideal for the job, observers conclude that they are showing who they truly are, since they could not have acted that way to try to get the job. Multiple causes make for uncertainty: For instance, how can you know if a politician's promises are because of his or her beliefs or because of the potential for obtaining your vote? Given the strong situational demands upon their behavior, you might discount their beliefs.

The discounting principle has been confirmed by many experiments since Kelley, with both adults and children. As children grow older, they become more sophisticated at differentiating when a person's behavior is due to a single cause or multiple causes and at explaining the behavior in terms of these causes.

Importance and Implications

Discounting can be seen as a set of tradeoffs between two explanations; if one is present, people discount the other. For instance, the person/situation tradeoff can be seen in Kelley's initial demonstration of explaining a job candidate's behavior. Interestingly, observers seem prone to correspondence bias, in which they explain another's behavior in terms of the individual's corresponding personal qualities rather than in terms of situational factors that adequately explain the behavior. This bias is seen less in Eastern cultures, where people are more apt to discount the impact of the person's disposition when there are reasonable situational explanations for their behavior.

Another tradeoff is whether people explain someone's success by their effort or their inherent ability. As children get older, they become better at understanding that effort and ability are different, concluding that if someone works hard to succeed, they might not be smart. Some people create or claim obstacles in the way of their own success, such as drinking or not studying the night before a test; this is called self-handicapping. By doing this, they create multiple explanations for their failure at something. If they fail, they can discount the role of their own ability or intelligence, instead blaming the obstacle. If they succeed, they can attribute their success to their own ability. The implications of strategic discounting are quite profound in that individuals can skillfully keep ambiguous the explanations for the behavior of themselves, other individuals, or other groups, exploiting this uncertainty for their own purposes.

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See also Attributional Ambiguity; Attributions; Fundamental Attribution Error; Self-Handicapping

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Discourse Analysis

See Discursive Psychology

DISCRIMINATION

Definition

Discrimination is the phenomenon of treating a person differently from other persons based on group membership and an individual's possession of certain characteristics such as age, class, gender, race, religion, and sexuality. Discriminatory behavior can take various forms from relatively mild behavior, such as social avoidance, to acts of violence, including hate crimes and genocide.

Issues Pertaining to the Study of Discrimination

Social psychologists study several aspects of discrimination, including overt or *old-fashioned* discrimination and subtle or *modern* forms. For example, overt discrimination might involve explicitly excluding job applicants who are women or people of color. Subtle discrimination occurs when, for example, the job interviewer unwittingly might sit farther away, not make eye contact, and conduct a shorter interview with a job applicant who is a woman or person of color.

Social psychologists distinguish *individual discrimination* from *institutional discrimination.* Individual discrimination, which is typically studied by social psychologists, includes discriminatory behavior by one person toward another. Institutional discrimination can take the form of government-sponsored laws and practices such as the Jim Crow laws during the post-Emancipation era in the United States that legally segregated Blacks and Whites in public places and denied African Americans many civil rights. Laws banning same-sex marriage are more recent manifestations of institutional discrimination.

Another area of study for social psychologists is whether there are individual personality characteristics associated with discriminatory behavior. That is, are there certain *types* of people who are more likely to discriminate? Individuals who emphasize submission to authority and are conventional and traditional in their values may discriminate against those who are different from them. Also, those who have difficulty with ambiguity and have a personal need for order and structure in their environment may discriminate more than those who have more tolerance for ambiguity.

Finally, social psychologists may investigate the extent to which discrimination (behavior) is related to prejudice (negative feelings) and stereotyping (beliefs and thoughts). Many assume that discriminatory behavior is a product of prejudice and stereotyping—that the prejudiced person discriminates, and those who are not prejudiced do not discriminate. Or, those who are stereotypical in their thinking will likely discriminate against a target person about whom they hold stereotypes. The relationship between these three constructs is complicated, and discrimination, prejudice, and stereotyping are not always related. For instance, a person might be familiar with certain stereotypes of some groups (e.g., Hispanics are thought to be lazy, lesbians are believed to be masculine) but may not treat members of those groups differently. Also, stereotyping and prejudice could be a *consequence,* not a *cause,* of discrimination. In an attempt to understand why some people are treated worse than others, one might conclude that the target of discrimination actually is worse (prejudice), or actually possesses different characteristics (stereotyping), than those who are not the targets of discrimination. In other words, that discrimination exists can justify or contribute to people's prejudices and stereotypes.

One issue worth noting is that discrimination, because it is *behavior,* tends to be illegal, whereas stereotyping and prejudice (thoughts and feelings) are not. In other words, a supervisor might believe women are not fit for management positions, but it is only when and if that supervisor treats women and men differently (e.g., in hires or promotions) that legality becomes relevant.

Kristin J. Anderson

See also Attitude–Behavior Consistency; Prejudice; Racism; Stereotypes and Stereotyping; Symbolic Racism

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DISCURSIVE PSYCHOLOGY

Definition

Discursive psychology is an approach that focuses on how people interact with one another and, in particular, on the role of psychological words and issues in that interaction.

The Development of Discursive Psychology

Discursive psychology emerged in the early 1990s, drawing on ideas from the subdisciplines of conversation analysis, rhetoric, and constructionism. Early work offered new ways of understanding topics in social psychology, such as memory, attribution, and attitudes. Studies showed how, for example, people manage issues of motive, intention, and morality in their descriptions of actions and events. To illustrate what is involved in this kind of research, consider this illustrative example from a rape trial (Witness is the victim of the alleged rape, Counsel is the legal counsel for the defense of the alleged rapist, and Mr O is the defendant who has been accused of rape):

Counsel: And during the evening, didn't Mr O come over to sit with you?

Witness: Sat at our table.

We can, no doubt, recognize that counsel's description suggests a familiarity and prior relationship between the defendant and the victim. It implies attitudes and motives that might make a rape conviction of the defendant harder to achieve. The witness's immediate correction offers an alternative that depersonalizes and de-familiarizes the relationship. It implies different attitudes and motives and perhaps a different moral status for the witness. These psychological matters are played out in the competing descriptions offered by the two parties to this interaction. This is the topic of discursive psychology.

Contemporary Discursive Psychology

Discursive psychology is unusual in social psychology in that it works primarily with audio and video recordings of actual interaction in natural settings rather than using experiments, questionnaires, or interviews. For example, recent work has focused on relationship counseling, child protection helplines, neighbor disputes, police interrogation, and different kinds of therapy, as well as everyday phone calls and interaction over family meals. Although it has continued to develop alternatives to mainstream social psychological topics, it has become increasingly focused on how actions are coordinated in institutional settings. For instance, how does a child protection officer working on a child protection helpline manage the possibly competing tasks of soothing a crying caller and simultaneously eliciting evidence sufficient for social services to intervene to help an abused child?

Discursive psychology has developed a rigorous methodological approach to records of interaction. It uses a form of transcription that captures features of speech delivery and has recently been able to exploit advances in digital audio and video to provide more powerful ways of working with large amounts of data.

Discursive psychology offers a very different way of addressing psychological issues than is common in much North American work. It has a different set of theoretical assumptions about mind and action, a different research method and even some rather different ideas about the nature of science. Its success has been based on a mix of theoretical innovation and a natural history approach that studies what people actually do in the settings in which they do it.

Jonathan Potter

See also Content Analysis; History of Social Psychology; Integrative Complexity

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DISGUST

Definition

Although there is much dispute about exactly what emotions are, everyone, starting with Charles Darwin in the 19th century, agrees that disgust is one of them. Disgust is almost always considered a basic emotion, often along with anger, fear, sadness, happiness, and surprise. Basic emotions, as defined most clearly by the psychologist Paul Ekman, are differentiated from more complex emotions on the grounds that basic emotions have some presence in nonhuman animals, are expressed and recognized universally in humans, and have a distinct facial expression.

Although disgust was clearly described by Charles Darwin in 1872 in his classic work, *Expression of Emotions in Animals and Man,* unlike anger, fear, and sadness, it was studied very little in psychology until the past few decades.

Behavioral, Expressive, and Physiological Responses

Like other basic emotions, the elicitation of disgust causes a set of predictable responses. Behaviorally, there is a withdrawal from the object of disgust. There is a characteristic facial expression, including a closing of the nostrils, a raising of the upper lip, and sometimes a lowering of the lower lip (gaping). The lowered lip is sometimes accompanied by tongue extension. Physiologically, the signature of disgust is nausea. Unlike fear and anger, the two most similar basic emotions, disgust is not accompanied by physiological arousal (e.g., increased heart rate). These three types of response (behavioral, expressive, and physiological) are generally accompanied by a feeling of revulsion.

Elicitors

It is in the domain of understanding the elicitors of disgust that the greatest challenge is encountered. So many things can elicit a disgust response. It is natural to look at nonhuman animals to get an idea of the basic core or origin of disgust. An expression very much like the human facial expression of disgust is seen in many mammals. It typically occurs in response to tasting a food that is either innately unpleasant (like something very bitter) or something that has been associated with nausea (e.g., a contaminated food). This fact, plus the fact that the disgust facial expression functions to eject things in the mouth and close off the nostrils, suggests that disgust, in its primitive form, is about food rejection. Further evidence for this comes from the very name of the emotion, *disgust*, which means bad taste. And the nausea that is part of the disgust response has the very specific effect of discouraging eating. These facts caused Darwin to describe disgust as a response to bad tastes and caused the psychoanalyst Andras Angyal to described disgust as a form of oral rejection based on the nature of a particular food.

This type of bad taste or distaste disgust seems to be the origin of disgust and may be a way that animals both reject food and communicate to other members of its species that a particular food should be rejected. Similar expressions and functions for distaste can be observed in human infants. However, by the age of 5 years or so, humans show disgust responses to many potential foods that neither taste innately bad nor have been associated with illness. Feces is a universal disgust, acquired in the first 5 years of life, along with disgust responses to other body products, rotted foods, and many types of animals (such as worms and insects, depending on the culture). Almost all foods that produce a disgust response are of animal origin. From about age 5 on, the human disgust response shows a uniquely human feature: contamination sensitivity. If a disgusting entity (say, a cockroach) touches an otherwise edible food, it renders that food inedible. This is not true of distasteful substances (such as a bitter food) for humans, and no animal (or human infant) has been shown to show the contamination response. Some believe that true disgust is a distinctly human response that uses the same expressive system as the distaste response seen in human infants and nonhuman animals but is a response not to the sensory properties (e.g., bitterness) of a food but rather to its nature or origin. People find worms disgusting because of what they are and not because of what they taste like (most people don't even know what they taste like).

Some researchers view basic disgust in humans as Angyal described it, a form of oral rejection based on the nature of a particular food, with animal foods accounting almost entirely for disgusting foods. The distaste system of animals has been appropriated for expression of a related but more conceptual form of food rejection, which is called *core disgust.*

But many things are disgusting to humans besides potential foods and body products. One category of disgust elicitors includes things like dead bodies, deformed or gored bodies, sexual activities between inappropriate partners (such as humans with animals), and filthiness (poor hygiene). This group of disgust elicitors can be described as reminders of humans' animal nature; animals die, have disgusting substances inside them, are perceived as filthy, and engage in what people would call inappropriate sex (e.g., with other animals). All of these elicitors, along with those related to eating, are reminders of our animal nature. People, cross-culturally, tend to be uncomfortable with the idea that humans are just animals and are particularly upset with one feature of animalness: mortality. The extension of the disgust response to exposure of the animal features of humans seems to be a way for humans to pull away from reminders of their animal nature and their mortality. Notably, the classic odor of disgust is the odor of decay, which is, of course, the odor of death.

There are many other disgust elicitors besides foods, body products, and other animal nature reminders. One major class is other people. Contact with other people a person doesn't like, whether because of personal experience with them or their membership in groups a person doesn't like, tends to elicit disgust. Disgust responses are common to wearing the clothing of disliked people, sharing food with them, and so forth. Finally, people find certain types of moral offenses disgusting, so that, in all cultures, some of the elicitors of disgust have to do with immorality. One might say that child abuse is disgusting, for example, and it has been found that very few people feel comfortable even wearing a sweater that had been worn by Adolf Hitler. Notice that this is an example of contamination; by contacting Hitler, the sweater took on negative Hitler properties, just as if it had been contacted by a cockroach. This cannot simply be a fear of illness or infection, as might be the case for contaminated and rotten meat. Hitler is no more likely to convey illness than anyone else. Furthermore, research has shown that a heat-sterilized cockroach, which is perfectly safe, is almost as disgusting as the usual, less clean creature. So, although disgust and contamination may have originated as a way to avoid infection, in its full-blown cultural form, it seems to have a life of its own.

Variations

This progressive extension from potentially contaminated food to moral offenses can be described as a shift from disgust as a response to protect the body to disgust as a response to protect the soul, from "get this out of my mouth" to "get this out of *me*." It seems that cultures have discovered that they can easily enforce rejection of certain entities or activities by making them disgusting. In this sense, disgust can be thought of as the emotion of civilization; to be civilized is to show disgust toward a wide class of objects and activities. The evolution of disgust from food rejection is beautifully described by Leon Kass in his book *The Hungry Soul,* and the greater of expansion of disgust into the moral world is very effectively described by William Miller in *The Anatomy of Disgust.*

Disgust, as described here, is not present in infants and probably originates in development in the process of toilet training. This universally creates the first offensive substance: feces. Within culture, individuals vary greatly in disgust sensitivity: On the low sensitive end, some Americans don't mind eating insects; on the very sensitive end, some people are disgusted by sharing food even with close friends and will not touch the door knob of a public restroom door. It is not known what causes this variation.

While disgust is a universal emotion, and feces are a universal disgust, there is a great deal of cultural variation. Americans tend to find somewhat decayed meat disgusting but enjoy rotted milk (cheese), Inuits enjoy fairly rotten meat, Chinese enjoy rotted soy beans (soy sauce) and eggs but find milk and cheese disgusting, and so on. Japanese may be more sensitive than Americans to the interpersonal disgust of contact with strangers (hence not liking used clothing or handling money), whereas they seem less sensitive to contact within their close-knit group, as in sharing their family bath. In India, disgust plays a major social role in enforcing avoidance of lower castes; upper-caste individuals are disgusted by food prepared by individuals of lower castes. In general, in Hindu India, disgust seems to be a more moral/interpersonal, and a less animal–nature avoidance, emotion than it is in the United States.

Disgust has recently come to the attention of neuroscientists, who have discovered that people with certain kinds of brain damage (e.g., Huntington's disease) show deficits in recognizing disgust. A few brain areas have now been associated with disgust, such that damage to these areas leads to poor disgust recognition and probably low disgust sensitivity.

A final turn in this fascinating cultural history is that disgust is often funny. Laughter is a common response to encounters with disgusting objects or

situations—but only when they are at least moderately distant. Disgust is a major component of jokes and other forms of humor, and in this sense, the experience of mild disgust is often sought by individuals. Aren't humans complex? They find a negative emotion pleasant in certain situations. But then humans also find sadness (as in sad movies) and fear (on roller coasters) pleasant as well. Humans seem to like to experience negative emotions when they are not really threatened.

Paul Rozin

See also Emotion; Facial Expression of Emotion

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DISPLACED AGGRESSION

Definition

Direct aggression follows the tit-for-tat rule that governs most social interaction: A provocation or frustration elicits verbally or physically aggressive behavior that is directed toward the source of that provocation or frustration, typically matching or slightly exceeding its intensity. In displaced aggression, an aggressive behavior is directed at a person or other target (e.g., a pet) that is not the source of the aggression-arousing provocation or frustration. Displaced aggression occurs when it is impossible or unwise to respond aggressively toward the source of the provocation or frustration.

History and Modern Usage

Sigmund Freud discussed displaced aggression. For example, if a man receives strong criticism from his boss, it would be unwise to retaliate by verbally or physically assaulting him. Instead, at a later time, he might insult his own wife or kick his dog. Each of these behaviors can be viewed as a displacement of the aggressive behavior that the man would have preferred to direct at the original source of the provocation—his boss.

In direct aggression, little time usually elapses between the provocation and the aggressive response to it. But in displaced aggression, the time between the provocation and the aggressive response can range from minutes to hours or days. After a provocation or frustration, physiological measures (e.g., heart rate) typically show increased arousal. This increase ordinarily lasts about 5 or 10 minutes but can persist for about 20 minutes. It may or may not contribute to displaced aggression. Rumination (persistent thought) about the provoking event, however, allows displaced aggression to occur long after the physiological arousal has subsided.

Triggered Displaced Aggression

Probably more common than displaced aggression is *triggered* displaced aggression. Instead of being totally innocent, the target of triggered displaced aggression provides a minor irritation that is seen by the aggressor as justifying his or her displaced aggression. As in displaced aggression, the magnitude of the aggressive act clearly violates the tit-for-tat matching rule.

The Relation Between Triggered Displaced Aggression and Excitation Transfer

Although the concept *excitation transfer* seems similar to triggered displaced aggression, they differ. In excitation transfer, arousal from another source (e.g., loud noise, exercise, or sexual stimulation) combines with the arousal from a provocation or frustration and produces a stronger retaliation than would have been the case without that other source of arousal. Thus, the increased arousal might be viewed as similar to a trigger. For excitation transfer to occur, however, the other source of arousal must have happened within about 5 minutes of the provocation. Moreover, one must be unaware that the other arousal still persists.

If aware, it will instead be properly attributed to its source (e.g., the exercise) and thus not increase the aggressive retaliatory response to a provocation. In triggered displaced aggression, however, one is fully aware of both the initial provocation or frustration and the trigger. Other differences are that excitation transfer consists of direct aggression toward the provocateur and that, unlike excitation transfer, triggered displaced aggression can occur with intervals between a provocation and trigger that well exceed the 5- or 7-minute maximum for excitation transfer.

Scapegoating

When displaced aggression is directed at persons who belong to an outgroup, it is called *scapegoating.* Typically, members of a disliked group are made the target of scapegoating.

Norman Miller
Vicki Pollock

See also Aggression; Excitation-Transfer Theory; Scapegoat Theory

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Distinctiveness, in Attribution

Definition

Distinctiveness, in attribution, refers to the extent to which a specific action engaged in by an individual is unusual or uncommon for that particular individual. The judgment of whether an action is high in distinctiveness, that is, uncommon for the individual who engaged in it, or low in distinctiveness, common for that individual, depends on knowledge of that individual's past behavior. Such information is referred to as *distinctiveness information.*

Background

The concept of distinctiveness developed out of attribution theory, which was originated by Fritz Heider. Heider began by noting that to understand people, one needs to understand how they view their own social world—their naive psychology. Heider proposed that people understand their social worlds largely in terms of cause and effect. When observing a given action, the individual typically decides the action was caused either by an attribute of the individual(i.e., an internal attribution) or by an aspect of the individual's situation (i.e., an external attribution). Heider further argued that the attribution for the action would depend on the observer's knowledge of both the individual and the situation.

Distinctiveness and Attribution

In 1967, Harold Kelley formalized some of Heider's ideas into a model of attribution which labeled the different judgments people use to infer causal attributions for another individual's behavior. He proposed that knowledge of the individual's past actions, that is, distinctiveness information, would affect the likelihood of making an internal attribution. If this information suggests that the individual has engaged in similar behavior in the past in a variety of situations, the behavior would be judged low in distinctiveness, and an internal attribution, to some aspect of the individual, would be more likely. In contrast, if the information suggests the individual has rarely engaged in similar behavior in other situations, the behavior would be judged high in distinctiveness, and an internal attribution would be less likely.

Consider a hypothetical example. If John gets into a fight, information suggesting that John has often got into fights likely would lead to an internal attribution to his aggressive nature. Alternatively, information suggesting that John had never previously fought would be unlikely to lead to an internal attribution.

The Importance of Distinctiveness

As this example suggests, and research generally confirms, distinctiveness plays a significant role in attributions, and attributions affect the impressions people form of others. This is important not only in daily

social life but in other domains of life, such as legal settings, as well. In an assault case, if jurors decide that the defendant's action was a result of his violent nature, a guilty verdict would be likely. In contrast, if they decide that the action was caused not by the defendant's violent nature, but rather by severe provocation from the victim (an external attribution), a not guilty verdict would be likely. United States courts are so aware of the role of distinctiveness information that judges are very careful in determining whether information concerning the defendant's past behavior is admissible in court.

Jeff Greenberg

See also Attribution Theory; Kelley's Covariation Model

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DISTRIBUTIVE JUSTICE

Definition

Distributive justice refers to the perceived fairness of one's outcomes. When a reward is allocated or a decision is made, people often make a judgment whether or not the outcome was fair. This judgment is referred to as a *distributive justice judgment* because it has traditionally been an assessment of how resources are distributed, or allocated, to individuals. Scholars have sought to understand both how these judgments are made and, once formed, what the consequences of such judgments are. Distributive justice has received considerable interest in a variety of different academic disciplines including psychology, philosophy, business, and law.

Theoretical History and Background

The notion of justice is a topic that has interested scholars, philosophers, and psychologists for a long time. Great thinkers such as Plato, Aristotle, and Socrates were some of the first to ponder this question of justice. Within the social sciences, the past half-century has witnessed considerable attempts to better understand justice. While philosophers speak of justice as an objective truth about what is fair, scholars in the social sciences seek to understand what individuals *perceive* to be fair. Thus, when psychologists speak of distributive justice, they are concerned with what individuals perceive to be fair as opposed to a logic-based, philosophical argument for whether something is indeed fair or not.

The initial study of distributive justice within psychology began in the late 1940s. The pioneering research involved studying members of the U.S. army during World War II. In examining survey data collected from the troops, an interesting finding emerged. Soldiers' attitudes were influenced more not by objective outcomes received but rather by the relative level of their outcomes compared to others in their unit. Indeed, members of Air Corps had less favorable perceptions about promotion opportunities compared to other units' members despite the fact that they had a much higher chance of being promoted than did members of those other units. After examining the results more closely, it became clear that Air Corps individuals compared themselves to other members of their unit as opposed to individuals in other units with lower promotion rates. Thus, *relative deprivation theory* was born, the notion that outcomes are not satisfying or unsatisfying in and of themselves but rather the comparison of one's own outcomes to others' outcomes is what matters most.

In the early 1960s, some scholars moved forward with the importance of comparing one's own treatment to that of others' treatment in determining whether outcomes are distributed fairly. A perspective emerged that suggested that, over time, individuals develop expectations in their relationships with others. These expectations are based on the idea that an individual's costs should be proportional to their rewards. People are keenly aware of whether they are putting more into a relationship then they are getting out of it. When individuals feel as if they put more into an exchange relationship than they get out of it, they tend to have negative reactions. A key point is that not all people will perceived distributive (in)justice the same way, because people have different *referents* (other people individuals compare themselves to) for determining whether there is an imbalance in the relationship.

Building on this idea of expectations in exchange relationships, other scholars further delineated between types of exchanges. For example, an exchange can be *economic,* whereby a tangible item of interest is exchanged, like an employee who works for a salary;

or an exchange can be *social,* such that it is more subjective, like how one should repay a friend that does one a favor. Thus, this perspective suggests that distributive (in)justice can occur whether economic or social exchanges are violated in some way. And, in addition to looking to other people and other relationships to determine if an injustice occurred, one is likely to consider societal norms with regard to how people should be treated. For example, there is a norm that if you help someone in need, they should reciprocate in some way by acknowledging your help and helping you when you are in need.

In the mid-1960s, the most detailed theory developed to explain how people determine whether the outcomes they receive are fair was introduced. Referred to as *equity theory,* this theory builds on much of the prior work on relative deprivation and expectations in exchange relationships. Specifically, equity theory posits that individuals in exchange relationships develop a ratio in their head of their perceived outcomes to their perceived inputs. They then compare that ratio to their perceptions of someone else's ratio or to the ratio they have experienced in similar situations in the past. When an individual's output-to-input ratio is lower than that of a referent, he or she is likely to perceive distributive injustice. Importantly, this theory goes on to explain what people tend to do when they feel their ratio is less than it should be, given their comparison base. Generally, people in "inequitable" situations will try to restore balance in one of three ways: by (1) altering one's own outputs or inputs, (2) altering a referent's outputs or inputs, or (3) removing oneself from the relationship.

In the 1970s, some scholars began to critique prior work on distributive justice. One of the primary concerns was that by describing distributive justice and equity synonymously, it did not allow for any other means to determine whether an outcome was fair. Scholars questioned whether weighing output–input ratios was the only way people could determine distributive (in)justice. A result of this inquiry was the identification of other principles, or rules, used to govern distributive justice. Indeed, some individuals are guided more by a principle of *equality,* the notion that regardless of one's input, everyone should receive the same outcomes. For example, if individuals are on a team, they should be given equal credit for success as opposed to just praising the most productive members. In addition, some individuals adhere to the principle of *needs,* the notion that regardless of input, those in need should get more favorable outcomes.

For example, our taxation system in the United States is designed such that wealthier individuals pay more and poorer individuals are supposed to reap more of the benefits of social services. Other principles were introduced over the years, but the principles of equity, equality, and needs have remained. Thus, this perspective on distributive justice highlights other principles people use to determine whether an outcome is fair.

To summarize, the initial work on distributive justice began over a half-century ago. The preliminary work focused on relative deprivation, or comparing one's own outcomes to the outcomes of a referent other. The next set of work concerned economic and social exchanges in relationships and expectations for outcomes one should receive. The most comprehensive and well-known theory about distributive justice, equity theory, was introduced in the 1960s and provided a specific formula for determining distributive justice based on an output–input ratio and highlighted what people do if they perceive inequity. Finally, in the 1970s, the notion was introduced that in addition to equity, other principles are often used by people to determine distributive justice, such as equality (providing the same outcomes to everyone) and needs (providing more favorable outcomes to those that are most in need).

Today, the study of distributive justice is alive and well. In general, interest has shifted more toward the procedures used to determine one's outcomes (referred to as *procedural justice*) and the fairness of interpersonal treatment (referred to as *interactional justice*). Despite this shift in interest, many scholars continue to study distributive justice. And, while equity is still the dominant paradigm for examining distributive justice, most scholars acknowledge that other principles such as equality and needs are also useful ways to understand distributive justice.

Research Findings

In addition to all of the theoretical work that has sought to explain what distributive justice entails and how people form perceptions of distributive (in)justice, there also has been a considerable amount of research on how people react once they have formed distributive justice judgments. For example, when individuals have favorable distributive justice perceptions, they are also likely to have more positive emotions and more favorable attitudes and behaviors directed toward the individual or organization that has

provided the outcomes. Specifically, outcomes of distributive justice include the following: improved affect, satisfaction, commitment, evaluations of others, trust, willingness to help others, and performance. Thus, this large body of research demonstrates that perceptions of distributive justice are associated with a variety of important outcomes.

David M. Mayer

See also Equity Theory; Procedural Justice

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DOMINANCE, EVOLUTIONARY

Definition

Virtually all human groups are characterized by some sort of hierarchy, in which some individuals enjoy relatively more respect and power than others do. Dominance refers to a person's rank or level in their group hierarchy. The term *dominance* is also used to refer to an individual's potential for asserting power and authority over more submissive members of his or her group (i.e., those with less dominance).

The concept of dominance should be differentiated from prestige or esteem. Although dominance and prestige often go hand in hand, it is possible to have prestige without power (e.g., a figurehead monarch who has no real authority), just as it is possible to have power without prestige (e.g., a disreputable dictator who, although able to assert authority over others, is neither liked nor respected by others).

Evolutionary Origins

Dominance in humans owes its importance, in part, to a long history of biological evolution. Dominance regulates the behavior of many species, from crickets and crayfish to baboons and bonobo chimpanzees. The term *pecking order,* for example, comes from the fact that hens commonly fight with one another (using their beaks to peck) to establish dominance over one another. Over time, direct conflict gives way to a more peaceful arrangement in which some hens are dominant over others. Indeed, in humans and other species, while immediate dominance competitions can be very turbulent, with losing individuals sometimes suffering injury or even death, most of the time members of a group settle into a relatively stable hierarchical structure. Relatively stable dominance hierarchies sometimes emerge spontaneously, even among strangers, with individuals settling into their relative positions extremely quickly (some estimates say within just a few minutes of interacting).

Dominance Striving

Dominance is a key characteristic in the social organization of primates. Chimpanzees, for example, are highly dominance oriented and will battle one another for places atop the hierarchy. Dominant chimps tend to puff themselves up, often strutting around as a way of asserting their power over others, while chimps lower in the hierarchy often grovel at their feet, exhibiting submissive gestures and persuading dominant chimps not to attack.

In many ways, humans are not all that different from chimpanzees. Many humans are highly motivated to achieve positions of dominance, and dominant people assert their power over others in myriad ways, from standing tall, speaking loudly, and looking people in the eye to delegating unwanted responsibilities to subordinate members of the group.

Why are humans—like members of other species—so interested in attaining dominance? Throughout evolutionary history, humans that achieved dominance over their peers were rewarded with access to a bounty of social and material resources that helped them better survive and reproduce. Relatively dominant

individuals, for example, generally had more and better food, as well as protection from threats posed by other groups. Thus, human ancestors who were inclined to strive for dominance often reaped important benefits and were therefore able to more effectively pass their genes on to subsequent generations. As a result, humans today exhibit a strong, biologically based tendency to seek positions of high social dominance.

Sex Differences

Men tend to be more interested in achieving dominance than are women. Evolutionary psychologists attribute this to differences in the reproductive challenges faced by men and women throughout evolutionary history. Whereas human females have had almost invariably the opportunity to mate and have children, opportunities for men to reproduce have been much more variable, with some men mating often with many different partners and other men not having the chance to mate at all. As a result, men competed with one another to achieve dominance, for dominant men were better able to attain mates.

Throughout evolutionary history, women have been attracted to dominant men because they have greater access to resources, which help provide for the welfare of offspring. Dominant males, in turn, tend to experience relatively free access to mating partnerships. Kings, maharajas, and noblemen throughout history, for example, have routinely mated with dozens and even hundreds of women. Thus, one of the reasons men are so interested in attaining high levels of social dominance is that, throughout evolutionary history, dominance has increased their opportunities to mate and, in turn, enhanced their reproductive success.

Although men are relatively more interested in achieving dominance than are women, there are certainly many cases in which women, too, achieve positions of dominance. There is evidence, however, that dominant women sometimes express their dominance in different ways than men do. Whereas men are relatively more inclined to express dominance through acts of personal ascension (e.g., by directly asserting authority over a subordinate), women are somewhat more inclined to express their dominance in prosocial ways. Dominant women, for example, often use their authority to enhance relationships among group members and to facilitate the functioning and well-being of the group as a whole.

Implications

From relationships between parents and children to interactions between managers and employees, everyone at times is affected by their level of relative social dominance. Dominance is a universal regulator of human social interactions. Virtually every human society has rules governing the manner in which dominance hierarchies are to be arranged and expressed. Moreover, a person's level of dominance also has important psychological implications. For example, people with high levels of social dominance tend to be happier, more confident and assertive, and tend to attract the attention of those around them.

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See also Evolutionary Psychology; Leadership; Power

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DOOR-IN-THE-FACE TECHNIQUE

Definition

The *door-in-the-face* is an influence technique based on the following idea: If you want to make a request of someone but you're worried that they might say no, get them to say no to a larger request first. Although this approach may seem odd, psychologists have identified two reasons why a "no" in response to a large request often leads to a "yes" in response to a subsequent smaller request.

The first reason is the powerful rule of reciprocity. The rule of reciprocity states that if someone does something for us, we feel obligated to do something for him or her in return. If a friend sends us a holiday card, we feel obligated to send them a holiday card in return. To see how the door-in-the-face technique uses the rule of reciprocity, imagine that a friend asks to borrow $100, but we say no. The friend then says, "I understand that $100 is a lot of money. Could you

lend me $25 instead?" The friend has done something for us (he was asking for $100; now he's asking for only $25), and we feel obligated to do something for him in return (we said "no" to his request for $100; now we say "yes" to his request for $25).

This example also shows the second reason why the door-in-the-face technique works. In contrast to $100, $25 doesn't seem like much money at all. Thus, the door-in-the-face does two things: It invokes the rule of reciprocity (when the requestor moves from a large request to a smaller request, we feel a reciprocal obligation to move from "no" to "yes"), and it creates a contrast effect (the size of the large request makes the smaller request seem even smaller in comparison).

Evidence

In one of the first scientific demonstrations of the door-in-the-face technique, Robert B. Cialdini and his colleagues had a researcher approach students on campus and ask them to spend a day chaperoning juvenile delinquents on a trip to the zoo. Only 13% agreed. The researcher made the same request to another set of students, but with these students, the researcher used the door-in-the-face technique. The researcher first asked these students if they would be willing to act as counselors for juvenile delinquents for 2 hours a week for 2 years. When the students said "no," the researcher asked if, instead, they would chaperone the juvenile delinquents to the zoo for a day. This time, 50% agreed.

Limitations and Implications

The door-in-the-face technique does have its limits. If the first request seems unreasonably large, then the technique can backfire. However, as the results of Cialdini and colleagues' experiment show, requests can get pretty big before they seem unreasonable. (Two years of volunteer work with juvenile delinquents is a pretty big request.)

So how do we feel when we've been hit by the door-in-the-face technique? It turns out that we actually feel better about the transaction than if the door-in-the-face had not been used. It's satisfying to win a concession from a negotiating opponent. Because the door-in-the-face begins with a concession on the part of the requestor, we feel greater satisfaction with the outcome. And because the door-in-the-face ends with our agreement with the concession, we feel greater responsibility for the outcome. Indeed, researchers

have found that the door-in-the-face increases not only the number of people who say "yes" but also the number of people who follow through with their agreement and who volunteer for the same thing in the future.

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See also Contrast Effects; Influence; Reciprocity Norm

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DOWNWARD COMPARISON

See DOWNWARD SOCIAL COMPARISON

DOWNWARD SOCIAL COMPARISON

Definition

Social comparison involves thinking about one or more other people in relation to the self. Downward social comparison involves making comparisons with others who are inferior to, or less fortunate than, oneself in some way.

History and Background

Leon Festinger's theory of social comparison proposed that because people seek accurate self-evaluations, they compare themselves with other people who are similar to themselves. People also make upward social comparisons with others who are superior, in hopes of learning how to improve. Early researchers discovered, however, that people are not always unbiased self-evaluators. Sometimes people wish to self-enhance—to feel better about themselves—which may lead them to compare downward. In a highly influential article

in 1981, Thomas Wills proposed that when individuals are low in subjective well-being, they often make downward social comparisons in an attempt to feel better. They may make downward social comparisons in several ways, including active derogation or simply passively taking advantage of opportunities to compare with people who are worse off. Wills also proposed that downward comparisons are made especially frequently by people who are depressed or low in self-esteem, because of their greater need for self-enhancement. To support his thesis, Wills reviewed an abundance of evidence on topics ranging from aggression and social prejudice to humor.

Wills's article inspired considerable research on downward social comparisons. Indeed, his article may be credited with rekindling social psychology's interest in social comparison more generally.

Research on the Selection and Effects of Downward Social Comparisons

Much of that research has been consistent with Wills's original propositions. Laboratory experiments have shown that people who are threatened in some way make downward social comparisons—or at least, fewer upward social comparisons. For example, in one study, participants who had failed a test of social sensitivity were more likely than those who had succeeded to choose to look at the scores of others when they expected those scores to be worse than their own.

Field studies have found similar evidence. For instance, in an interview study of breast cancer patients, the vast majority spontaneously brought up ways in which they were superior to, or more advantaged than, other people with cancer. They were much less likely to describe upward social comparisons. Other populations that have been shown to engage in downward social comparison include mentally disabled adolescents, victims of fire, arthritis patients, and mothers of premature infants.

Considerable research also has examined the effects of downward social comparisons. They have been shown to increase positive affect, decrease negative affect, heighten optimism about the future, increase relationship satisfaction, and enhance self-esteem. These benefits seem to be especially pronounced for people who are low in self-esteem and who are strongly disposed to make social comparisons.

Challenges to Downward Social Comparison Theory

As is true of any theory that has inspired considerable research, evidence has emerged that challenges Wills's theory or that at least identifies qualifications to it. First, it has become clear that upward social comparisons can benefit people under threat. Although traditionally it has been assumed that comparisons with superior others make people feel worse, upward social comparisons can be self-enhancing and motivating. For example, ex-smokers may seek contact with successful ex-smokers to learn about their strategies or to be inspired by their examples. People under threat also may avoid social comparisons altogether. Cancer patients sometimes schedule their oncologist appointments first thing in the morning to avoid seeing others whose conditions are worse.

Evidence that people under threat avoid social comparisons or make upward social comparisons does not contradict downward social comparison theory; it merely suggests that those people have other comparison strategies available to them. More challenging to the theory is evidence that downward social comparisons sometimes have deleterious effects. Specifically, people may worry that they will suffer the same fate as the downward target. Successful dieters, for example, may not wish to hear about others who have gained back all the weight they lost. People also may refrain from making downward social comparisons for fear of appearing boastful or as lacking in empathy.

Two important determinants of comparison effects appear to be one's level of (1) perceived control and (2) identification with the comparison target. When people perceive little control over the comparison dimension, such as whether their illness will worsen, they may fear comparisons with others who are worse off. Similarly, when people identify with the downward target, they may worry that they will suffer a similar fate. In contrast, when they believe that they do have control over the comparison dimension or feel dissimilar to the target, they are likely to feel better after making downward social comparisons.

Perhaps the greatest challenge to downward social comparison theory comes from a study that investigated social comparisons made by university students in their everyday lives. Respondents were more likely to report downward social comparisons when they felt happy rather than unhappy. To explain this result, the researchers drew upon the large literature on

mood-congruent cognition. They proposed that social comparisons may operate in a mood-congruent fashion: When people are happy, they tend to focus on favorable thoughts about themselves and ways in which they are superior to other people, which may promote downward social comparisons. In contrast, when people are sad or under threat, they may focus on unfavorable information about themselves and on ways that other people are better off, which may promote upward social comparisons.

One way to reconcile these results with downward social comparison theory may be that two forces drive social comparisons under threat: both mood-congruent priming and the motivated processes proposed by Wills. That is, people may be prone to make upward social comparisons when they are sad, because their moods prime them to have unfavorable thoughts about themselves and about their inferiority to others. These mood-congruent effects may be especially likely to drive the comparisons that people make unintentionally. At the same time, people may combat their bad feelings by deliberately seeking downward social comparisons. The social comparisons they are motivated to make, then, may be downward rather than upward. One study of comparisons in daily life offered support for these predictions.

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See also Control; Coping; Self-Enhancement; Social Comparison

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Drive Theory

Definition

Drive refers to increased arousal and internal motivation to reach a particular goal. Psychologists differentiate between primary and secondary drives. Primary drives are directly related to survival and include the need for food, water, and oxygen. Secondary or acquired drives are those that are culturally determined or learned, such as the drive to obtain money, intimacy, or social approval. Drive theory holds that these drives motivate people to reduce desires by choosing responses that will most effectively do so. For instance, when a person feels hunger, he or she is motivated to reduce that drive by eating; when there is a task at hand, the person is motivated to complete it.

Background

Clark L. Hull is the most prominent figure from whom this comprehensive drive theory of learning and motivation was postulated. The theory itself was founded on very straightforward studies of rat behavior done by Hull's students, Charles T. Perin and Stanley B. Williams. The rats were trained to run down a straight alley way to a food reward. Thereafter, two groups of rats were deprived of food, one group for 3 hours and the other for 22. Hull proposed that the rats that were without food the longest would have more motivation, thus a higher level of drive to obtain the food reward at the end of the maze. Furthermore, he hypothesized that the more times an animal was rewarded for running down the alley, the more likely the rat was to develop the habit of running. As expected, Hull and his students found that length of deprivation and number of times rewarded resulted in a faster running speed toward the reward. His conclusion was that drive and habit equally contribute to performance of whichever behavior is instrumental in drive reduction.

Application to Social Psychology

When a person is hungry or thirsty, he or she feels tension and is motivated to reduce this state of discomfort by eating or drinking. A state of tension can also occur when a person is watched by other people or simultaneously holds psychologically inconsistent beliefs or thoughts. The theory of cognitive dissonance, proposed by social psychologist Leon Festinger, suggests that when a person is faced with two beliefs or thoughts that are contradictory, he or she feels psychological tension. This psychological tension is a negative drive state that is similar to hunger or thirst. Once a person feels cognitive dissonance, he or she is motivated to reduce this psychological tension, modifying beliefs or thoughts to match one another.

An interesting application of drive theory to social psychology is found in Robert Zajonc's explanation of the social facilitation effect, which suggests that when there is social presence, people tend to perform simple tasks better and complex tasks worse (social inhibition) than they would if they were alone. The basis for social facilitation comes from social psychologist Norman Triplett, who observed that bicyclists rode faster when competing against each other directly than in individual time trials. Zajonc reasoned that this phenomenon is a function of humans' perceived difficulty of the task and their dominant responses: those that are most likely given the skills humans have. When drives are activated, people are likely to rely on their easily accessible dominant response, or as Hull would suggest, their habits. Therefore, if the task comes easy to them, their dominant response is to perform well. However, if the task is perceived as difficult, the dominant response will likely result in a poor performance. For instance, imagine a ballet dancer who was ill-practiced and often made several errors during her routine. According to drive theory, when in the presence of others at her recital, she will display her dominant response, which is to make mistakes even more so than when alone. However, if she spent a substantial amount of time polishing her performance, drive theory would suggest that she may have the best performance of her dancing career (which she might never match in solitude).

Behavioral and social psychological perspectives, although addressing different phenomena, share an important similarity. Humans experience arousal (drive) to achieve a particular goal; habits (or dominant responses) dictate the means for reaching that goal. With enough practice, the perceived difficulty of a task will decrease, and people are likely to perform better.

How can the simple presence of other people in our environment affect our behavior? We can never be sure how others will react to us. Will they evaluate, admire, or judge us? From an evolutionary standpoint, because we do not know how people will respond to us, it is advantageous for individuals to be aroused in the presence of others. Our instinctive drive to notice and react to other social beings provides the foundation of Zajonc's drive theory. For instance, imagine walking down the street late at night when you see a dark shadow approaching you. You will likely prepare yourself for this unexpected encounter. Your heart rate will increase, you might run, or you may even choose to socialize. Nonetheless, Zajonc maintains that your impulse is to become socially aware of those in your proximity whose intentions are unknowable.

What does another's presence make people feel? One theory suggested by social psychologist Nickolas B. Cottrell includes an evaluation apprehension model. This model suggests that humans experience arousal in the form of anxiety because of the fear of being evaluated or judged by those around them. In several experiments, it was found that the drive to present oneself as capable to avoid negative evaluation was nonexistent when the audience was blindfolded; thus, they were inattentive to the task at hand. When the audience was attentive to the task, however, instinctive drive promoted better performance.

Implications

Drive theory combines motivation, learning, reinforcement, and habit formation to explain and predict human behavior. It describes where drives come from, what behaviors result from these drives, and how these behaviors are sustained. Drive theory is also important in understanding habit formation as a result of learning and reinforcement. For instance, to alter bad habits, such as drug use (which can be seen as a way to reduce the drive for euphoria), an understanding of how habits are created is essential; drive theory offers this insight.

In addition, drive theory as an explanation of instinctive arousal in the presence of others is apparent in people's daily lives. Because humans do not exist in a vacuum, it is imperative that they understand how

others influence them: their performance, their self-concept, and the impressions they make on the social world.

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See also Cognitive Dissonance Theory; Social Facilitation

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Dual Attitudes

Definition

Dual attitudes refer to the idea that an individual can have two different attitudes about something—both an implicit attitude and an explicit attitude. The implicit attitude refers to an intuitive response or gut reaction, whereas the explicit attitude refers to a more deliberate, thought-out response. Thus, a past love may evoke both a positive intuitive response (a positive implicit attitude) and a negative deliberated response (a negative explicit attitude). When an individual has different implicit and explicit attitudes toward something, he or she is said to have dual attitudes.

Context

Debate exists about whether intuitive and deliberated responses truly represent different attitudes. One alternative theory is that intuitive and deliberated responses are part of a single attitude. For example, a positive intuitive response to a past love could combine with deliberated thoughts to form a single negative attitude. Another alternative theory is that intuitive responses represent true attitudes, whereas deliberated responses are inauthentic and tainted by conscious concerns with appearance. For example, an intuitive positive response to a past love would be the true attitude, whereas a more negative deliberated response would be inauthentic, perhaps tainted by concerns with appearing to be over it. In contrast to these theories, the view endorsed by dual attitudes is that intuitive responses are one type of attitude (implicit attitudes), deliberative responses are another type of attitude (explicit attitudes), and individuals may have both implicit and explicit attitudes toward a single object or idea.

Evidence

The strongest evidence in favor of dual attitudes is that implicit attitudes and explicit attitudes are related to different types of behavior. Implicit attitudes appear to be most strongly related to nonverbal behaviors and behaviors that are not consciously controlled. Thus, an individual with a positive implicit attitude toward a past love would be expected to lean toward, and maintain eye contact with, that past love during conversation. In contrast, explicit attitudes appear to be most strongly related to verbal behaviors and behaviors that can be consciously controlled. Thus, an individual with a negative explicit attitude toward a past love would be expected to complain about and not return the phone calls of that past love. The fact that some behaviors can be predicted on the basis of implicit, but not explicit, attitudes is consistent with the view that implicit attitudes are indeed distinct from (not part of) explicit attitudes.

Other evidence consistent with the dual attitudes perspective is that there is often little relationship between measures of implicit and explicit attitudes. If implicit attitudes were actually a component of (or a pure form of) explicit attitudes, then some relationship between the two would be expected. Although a dual attitudes model does not prohibit a relationship between implicit and explicit attitudes, such a model does not require a relationship between the two.

Distinctions

The clearest distinction between implicit and explicit attitudes is that the former are effortlessly and unintentionally activated in the presence of the attitude

object. For example, for an individual with a positive implicit attitude toward candy, passing the candy store on the drive home should elicit a positive response, even when the individual is busy driving and is trying to concentrate on the road. In contrast, explicit attitudes are only activated with effort and intention. Thus, implicit attitudes can be ascertained even if a target person is busy or does not wish to express an attitude; explicit attitudes can only be ascertained if the target has resources and motivation to express an attitude.

Equally as important and related to these distinctions is that implicit attitudes, in contrast to explicit attitudes, are extremely difficult to bring into conscious awareness. Thus, people are often unaware of their implicit attitudes but are typically quite aware of their explicit attitudes.

A final distinction is that implicit attitudes reflect long-term, habitual responses, whereas explicit attitudes reflect more recently learned responses. A spouse whom one loved for many years may become disliked after one learns of the spouse's infidelity. However, the new explicit attitude of dislike does not necessarily replace the old and habitual positive attitude. Instead, the latter continues to exist as an implicit attitude. Ultimately, explicit attitudes are easier to change than are implicit attitudes.

Applications

Dual attitudes have been applied to the study of prejudice with results that mirror those described earlier in this entry. First, several studies have shown that there is little correspondence between implicit and explicit attitudes toward people of a different ethnicity. Second, implicit and explicit attitudes are related to different types of behaviors. For example, White people with prejudicial implicit attitudes are more likely than other White people to blink and look away from Black people during a social interaction. White people with prejudicial explicit attitudes are more likely than other White people to verbally denigrate a Black person and to say that Black people are guilty of crimes. Thus, different types of prejudiced behavior are related to different types of prejudiced attitudes.

Dual attitudes have also been applied to the study of self-esteem with results that mirror those described earlier. First, several studies have shown that there is little correspondence between implicit and explicit attitudes about the self. Second, implicit and explicit

self-attitudes are related to different types of behaviors. For example, people with low implicit self-esteem are more likely than their high self-esteem counterparts to appear anxious in social situations. In contrast, people with low explicit self-esteem are more likely than their high self-esteem counterparts to report anxiety felt during a social situation.

Implications

Contrary to popular opinion, gut reactions, slips of the tongue, and nonverbal behaviors may reveal only an implicit attitude, not a person's true nature. A person's explicit attitude may be revealed through more direct means. Indeed, many of the behaviors that make a difference in life, such as decisions about whom to call back, who to hire, or who to convict are more closely related to explicit attitudes.

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See also Ambivalence; Aversive Racism; Dual Process Theories; Implicit Attitudes

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DUAL PROCESS THEORIES

Definition

Dual process theories are a group of theories in social, personality, and cognitive psychology that describe how people think about information when they make judgments or solve problems. These theories are called dual process because they distinguish two basic ways of thinking about information: a relatively fast, superficial, spontaneous mode based on intuitive associations, and a more in-depth, effortful, step-by-step mode based on systematic reasoning. Dual process theories have been applied in many areas of psychology, including persuasion, stereotyping, person perception, memory, and negotiation. In general, these theories assume that people will think about information in a relatively superficial and spontaneous way unless they are both able and motivated to think more carefully.

Background and History

Dual process theories are built on several key ideas that have a long history in psychology. For instance, the two modes of thinking described by various dual process theories can often be mapped onto a top-down, idea-driven way of understanding the world versus a bottom-up, data-driven way of understanding. The notion that the way people understand the world is critically influenced by the knowledge that they bring to a situation (so that they begin at the top—their heads—in their understanding), as well as by the information provided within the situation itself (the bottom), dates back to Wolfgang Kohler's distinction in the 1930s between perception and sensation. For instance, when a person looks at a book on a table, he or she senses both a pattern of colors and lines with his or her eyes and actively labels the pattern "book" by using his or her knowledge about what a book is like.

Dual process theories also build on Gestalt principles explored by psychologists in the 1930s and 1940s, which suggest that people have a natural tendency to make experiences meaningful, structured, and coherent. By focusing on how one thing relates to the next and seeing patterns in the way that events unfold, a person can understand and predict the social world, which allows him or her to anticipate, plan, and act effectively.

These and other elements were integrated into dual process theories in a variety of fields, beginning in the 1980s, often as an attempt to understand and synthesize conflicting findings or theories in the area. In persuasion, for instance, the development of two dual process theories (the elaboration likelihood model and the heuristic-systematic model) allowed researchers to organize complex findings in the field of attitudes and attitude change and explain why certain variables sometimes lead to attitude change and sometimes do not. For instance, when people are relying on simple, intuitive shortcuts in their thinking, they will be more persuaded by an expert than by a nonexpert, even when the expert's arguments are not very good. However, when people are relying more on systematic, bottom-up processing of all available information, they will tend to be more persuaded by good arguments than by someone's title.

Similarly, in the field of person perception, the continuum model of impression formation was developed in an attempt to reconcile two competing viewpoints on how people perceive others: one proposing that individuals form impressions in a bottom-up fashion, adding up lots of specific evaluations about a target person to form an overall average impression, and another claiming that people form impressions based on stereotypes or other social categories (e.g., race, gender). The continuum model suggests that people can use both of these modes, and the model identifies when a perceiver will rely solely on an initial, general categorization and when he or she will go on to think more carefully about another person based on unique information about that individual.

Importance and Consequences

As dual process theories became increasingly popular, they were adopted by more and more areas of psychology to describe how people think about information and arrive at conclusions. Dual process theories differ in various ways. For instance, some assume that the two ways of thinking about information are mutually exclusive (either/or), whereas others suggest that they happen one after the other, or even at the same time. However, the theories are more similar than different. They typically distinguish between a quick, superficial mode and an effortful, systematic mode of thinking. They also identify factors that affect whether people are able to and want to think carefully about information. In addition, they predict how the use of each mode will influence outcomes such as judgments, attitudes, stereotyping, and memory. By focusing on how people think about social information, dual process theories allow psychologists to identify the way in which a given variable (e.g., time pressure) will influence these thought processes and how this change in thinking will in turn affect the conclusions and judgments that people make.

As an example, consider the heuristic-systematic model of attitude change in the field of persuasion. Like other dual process theories, the heuristic-systematic model proposes two distinct modes of thinking about information. Systematic processing involves attempts to thoroughly understand any information encountered through careful attention, deep thinking, and intensive reasoning (e.g., thinking carefully about the arguments presented, the person arguing, and the causes of the person's behavior). This information is combined and used to guide subsequent attitudes, judgments, and behaviors. For instance, a systematic approach to

thinking about the Israeli–Palestinian conflict might involve reading as many magazine and newspaper reports as possible to learn and develop an opinion about the best course of action for the Middle East. Not surprisingly, such systematic thinking entails a great deal of mental effort, and requires that a person (a) can devote a certain amount of attention to thinking about the issue and (b) wants to devote this attention. Thus, systematic processing is unlikely to occur unless a person is both able and motivated to do it.

Relative to systematic processing, heuristic processing is much less mentally demanding and much less dependent on having the ability (e.g., enough knowledge and enough time) to think carefully about information. In fact, heuristic processing has often been called relatively automatic because it can occur even when people are not motivated and able to deliberately think about a topic. Heuristic processing involves focusing on easily noticed and easily understood cues, such as a communicator's credentials (e.g., expert or not), the group membership of the communicator (e.g., Democrat or Republican), or the number of arguments presented (many or few). These cues are linked to well-learned, everyday decision rules known as *heuristics.* Examples include "experts know best," "my own group can be trusted," and "argument length equals argument strength." These simple, intuitive rules allow people to form judgments, attitudes, and intentions quickly and efficiently, simply on the basis of the easily noticed cues, and with little critical thinking. A heuristic approach to the Israeli–Palestinian conflict might involve simply adopting the opinion of a noted Middle East political expert. In other words, heuristic thinking is what a person does when he or she does not have much ability or time to think about something and wants to make a quick decision.

The heuristic-systematic model suggests that people's ability and motivation to think carefully about information influence whether they rely solely on quick decision rules or go on to think about information more carefully and deeply. Furthermore, this model identifies three broad categories of motives that influence whether thinking in either manner will be relatively open-minded versus relatively biased. Accuracy motivation is geared toward discovering what is correct. Accuracy motivation leads to relatively open-minded, evenhanded thinking. Defense motivation refers to the need to protect oneself against potential threats to one's valued opinions and beliefs. This self-focused motivation leads people to choose heuristics that help protect their beliefs and to systematically think about information in a biased way that supports these beliefs. Finally, impression motivation involves the desire to make a good impression on another person or to maintain a positive relationship with someone. This other-focused motivation also biases thinking in favor of reaching a desired conclusion—in this case, the one that will best serve the relationship. Research on these three motivations reveals that people can think about information in an open-minded way when they have a lot of time and energy and really want to, but they are also very good at thinking about information in a way that lets them believe what they want to believe or what they think others want them to believe.

Dual process theories have been applied to many other research areas in social psychology. For example, the MODE model (motivation and opportunity as determinants of the attitude–behavior relationship) suggests that attitudes may guide behaviors in one of two ways. Strong positive or negative attitudes can guide behavior directly, without the individual thinking very much. Or, individuals can construct their attitudes in a more bottom-up, systematic fashion and then use this new attitude to determine their behavior. As another example, dual process models of how we perceive other people suggest two sequential modes of thinking about information when forming impressions of others. First, individuals spontaneously categorize the person (e.g., "She is a woman"; "He is Chinese"), and then—if they are both motivated and able to do so—they continue on to think more systematically about individuating, unique features of the person. Similarly, a dual process model of stereotyping suggests that people have an automatic tendency to stereotype others but can correct this stereotype if they are motivated and able to deliberately modify their views.

Perhaps most recently, a dual process perspective has been applied to negotiation settings. Studies in this field suggest that when negotiators have little desire to think carefully (or are unable to think carefully), they often rely on stereotypes about an opponent's group membership or the belief that if one side wins the negotiation, the other has to lose. In contrast, when motivation and ability to think carefully are relatively high, reliance on these heuristics tends to

decrease, and systematic processing increases. This allows negotiators to discover win–win solutions that are better for both parties.

Shelly Chaiken
Alison Ledgerwood

See also Attitude Change; Elaboration Likelihood Model; Heuristic Processing; Motivated Cognition; Need for Closure

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DYNAMICAL SYSTEMS THEORY

Definition

Emotions go up and down over the course of days. But sometimes emotions are more constant. For instance, depression could be characterized with fairly constant negative emotions across days. When will hearing some negative information lead a person into a depressed pattern? When will the same negative information just lead to a bad day among the good days? Dynamical systems theory (also known as dynamic systems theory or just systems theory) is a series of principles and tools for studying change. It is based on concepts from mathematics and is a general approach applicable to almost any phenomenon.

There are two types of change that are central to this method. First, a systems approach focuses on how a phenomenon changes over time. For example, a systems approach to emotions concentrates on how emotions evolve in time rather than whether a person is happy or sad on a given day. It seeks to identify patterns of change that can be reoccurring, constant, or even ever-changing. For example, emotions might go back and forth between good and bad days (reoccurring), remain negative (constant, not unlike depression), or constantly change in complex ways. A systems approach often assesses the stability of those patterns. For example, will receiving some negative information knock a person out of a pattern of ups and downs? Will the same negative information disrupt a constant negative pattern such as depression? Dynamical systems theory can also identify when the pattern of emotional change will evolve into another pattern on its own or in relation to other parts of the system. For example, under what circumstances can only a constant negative pattern of emotions exist? In summary, dynamic systems can be used to identify what might alter the entire long-term pattern of emotions that follow.

The second type of change examined by systems theory is that which occurs from the many interactions among units (i.e., individuals, groups, aspects within the individual). For example, a systems perspective of emotions might simultaneously consider the interaction of the differing emotions between a husband and wife. These interactions are assumed to be multidirectional. That is, the husband and wife mutually influence one another so that each changes and limits the emotions of the other. Because of these mutual influences on emotions with other people, there is the potential for each person to generate a very complicated pattern of emotions in time. Surprisingly, these multicomponent systems tend to generate relatively simple patterns. For example, a pair of individuals who begin with different emotions might converge on the same emotional pattern and might even help each other maintain that pattern (stability). That is, a couple both in the same ups and downs of emotions might make each person in the pair more resistant to negative information. This order emerges because of the multidirectional and reciprocal influences and tends to promote a great deal of predictive power. For example, you might need to know only the emotional pattern of a single individual in a group to know automatically the emotional changes of every other individual in the group. Thus, part of a systems perspective is identifying the qualities that depict the entire multicomponent system.

Context and Importance

Within social psychology, systems theory has been applied to a wide variety of topics. It is often called a meta-theoretical perspective because its principles can be applied to virtually any phenomenon. For this reason, systems theory is often thought not to be theory at all but instead a descriptive tool. Regardless, systems theory is inherently an interdisciplinary approach found in fields as diverse as mathematics, physics, architecture, biology, chemistry, and psychology, sharing the same language, tools, and concepts.

Applications

Systems theory tends to be applied in three main ways. The first, dynamical systems modeling, consists of generating simulations of the many interactions functioning over time. The simulations describe the phenomenon mathematically, testing out situations that parallel the real world but that would be difficult to study in the real world. For example, it is possible to study the emotions of couples across days, but modeling could be used to examine emotions at a community level identifying the circumstances that discriminate when depression is commonplace in a community from when it is rare. Dynamical systems models have revealed that very simple mathematical equations of change are capable of producing a great deal of complexity. The simulations need not be very complicated to move beyond predicting patterns in real life. However, both relatively simple equations and very complex ones can also generate order.

The second way dynamic systems theory is used is empirically. In empirical methods, mathematical concepts are applied through longitudinal methods and designs that measure changes over time. These studies tend to be very data demanding, often collecting information in real time over long periods of time. Mathematical equations and systems concepts are then used to describe the outcomes, often generating new predictions for further empirical studies.

Lastly, systems theory is used as a metaphor whereby the concepts are applied qualitatively without use of mathematical relationships. Many phenomena in psychology cannot easily be measured at the quantitative level that is demanded by empirical systems techniques. Nor can they be easily quantifiable by a set of equations. Thus, the concepts are used as heuristic examples of the phenomenon. Since a systems approach focuses on change and complex interactions, the concepts are still metaphorically informative to the psychological sciences.

Jonathan Butner

See also Emotion; Research Methods

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E

ECOLOGICAL RATIONALITY

Definition

Human reasoning and behavior are ecologically rational when they are adapted to the environment in which humans act. This definition is in stark contrast to classical definitions of rationality, according to which reasoning and behavior are rational when they conform to norms of logic, statistics, and probability theory.

History

The notion of ecological rationality, that is, the interaction of cognition and environment, is highlighted in Herbert Simon's analogy of a pair of scissors: Human rational behavior is shaped by a pair of scissors, with one blade being the structure of the environment and the other blade the computational capabilities of the actor. This notion highlights two important aspects of the concept of ecological rationality. First, just as one cannot understand the function of scissors by looking at a single blade, one cannot understand human cognition by studying either the environment or cognition alone. Second, the concept of ecological rationality can be employed to evaluate more than just people's behavior; it is additionally presumed that people's reasoning is the result of an adaptation of the individual to his or her environment.

The concept of ecological rationality has been strongly influenced by the psychologist Egon Brunswik's work on human perception. Brunswik argued that human perception cannot be understood when it is studied in a nonrepresentative laboratory setting that eliminates the ecological structure of real-world environments. When following the common experimental practice of using a factorial design, objects are constructed or selected such that the cues describing the objects, which are the focus of interest, are independent of each other. This procedure does not acknowledge that the same cues are often correlated with each other in everyday life and that human perception could take these correlations into account. Ignoring these environmental aspects in an experimental setting has profound consequences: It severely limits the generalizability of the results and, in particular, obscures the adaptation and ecological rationality of cognitive mechanisms.

According to Brunswik, to understand cognition one needs to explore the characteristics of the environment on which cognition is based. This point has inspired many researchers, including John R. Anderson, James J. Gibson, Gerd Gigerenzer, David Marr, and Roger Shepard. Anderson, for instance, argues that any study of psychological mechanisms should be preceded by an analysis of the environment. His point is that such an analysis may help to identify the cognitive mechanisms that underlie human behavior. This process can be problematic, however, given that different mechanisms often predict very similar behavior. Therefore, the behavior alone does not allow one to infer unambiguously which of the mechanisms produced that behavior. However, when one also analyzes what mechanisms are able to produce adaptive behavior in a specific environment, the set of mechanisms can be reduced. If a limited set of adaptive mechanisms is focused on to explain cognition, the identification of the most adequate mechanism is simplified.

The identification of cognitive mechanisms that govern human behavior can further be improved when it is taken into account that people's reasoning is constrained by limited resources, such as time, memory, or computational power. Faced with these limitations, it is reasonable to assume that humans will aim for solutions to a problem that do not require many resources. Thus, when two potential cognitive mechanisms are able to produce adaptive behavior in a specific environment, it is likely that humans will apply the mechanism that requires the least amount of resources. In this vein, researchers such as Gigerenzer, Peter Todd, and the ABC Research Group have argued that people apply fast and frugal heuristics that are adapted to an environment. A heuristic is frugal when it does not require much information, and it is fast when it relies only on simple computations. From the perspective of ecological rationality, a heuristic that does not require many resources and, in addition, is able to solve a problem well is a very promising candidate to describe the cognitive process that underlies human behavior.

Classical Definitions of Rationality

The definition of ecological rationality stands in stark contrast to classical definitions of rationality. According to the classical definition, human behavior is rational to the extent that it conforms to the norms of logic, statistics, and probability theory. For example, according to Jörg Rieskamp, Jerome Busemeyer, and Barbara Mellers, most theorists use principles of consistency and coherence when evaluating the rationality of people's preferences. For instance, if a person prefers option A to option B, and option B to C, the preference of option C to A would be intransitive and violate consistency. Because of the violation of the logical consistency principle, the person's preferences are perceived as a violation of rationality. The use of this classical definition of rationality to evaluate cognitive processes has prevailed in one of the most influential psychological research programs on human reasoning, judgment, and decision making of the past 3 decades, namely, the heuristics-and-biases program. This program has illustrated for a large variety of reasoning problems that human behavior often violates basic norms of logic or probability theory. These violations, following the classical definition of rationality, have consequently been labeled as biases and have

been explained by the application of heuristics that also violate the classical norms of rationality.

An Example of Classical and Ecological Rationality

Consider a physician's problem of inferring which of two heart attack patients needs more urgent treatment. This inference can be made on the basis of several cues, for example, the patients' systolic blood pressure or age. A physician might consider blood pressure as a more important indicator compared to age when inferring a patient's risk. When considering two patients, A and B, the physician might decide that although patient B has higher blood pressure than A, due to a small negligible difference, the physician will treat the older patient A first. The same might be the case when the physician compares patient B with C, where again patient C's blood pressure is not substantially higher than B's, so the physician treats the older patient B first. However, if the physician had compared patients A and C, she might have treated patient C first, because now C's blood pressure is substantially higher than A's. Thus, the physician's decisions would be intransitive and thereby would violate the consistency principle, a cornerstone of classical definitions of rationality.

Consider the decision now from an ecological perspective, and a different conclusion can be drawn. First, the physician has to make decisions rather quickly and his or her sequential inference strategy allows for very quick decisions. Second, the hypothetical example illustrating intransitive decisions might not occur very often in real life: Blood pressure could be positively correlated with age, so that when treating the patient with the higher blood pressure, most likely the older patient will be treated first. Thus, the ecologically rational inference strategy of the physician, in principle, violates classical definitions of rationality, but in fact these violations might not occur frequently in real life.

Jörg Rieskamp
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See also Behavioral Economics; Decision Making; Dual Process Theories; Ecological Validity; Fast and Frugal Heuristics

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ECOLOGICAL VALIDITY

Definition

Ecological validity is the extent to which research findings would generalize to settings typical of everyday life. As such, ecological validity is a particular form of external validity. Whereas external validity refers to the overall extent to which findings generalize across people, places, and time, ecological validity refers more specifically to the extent to which findings generalize to the settings and people common in today's society.

Background and Distinctions

Validity has many faces, including *internal validity* (accurate claims about cause), *construct validity* (accurate claims about the nature of variables), and *external validity* (accurate claims about how processes and findings generalize across people, places, and time). Ecological validity is one aspect of external validity in which researchers ask whether research results represent what happens in everyday life. More specifically, ecological validity addresses whether an effect has been shown to operate in conditions that occur often for people in the population of interest.

In this regard, ecological validity is closely related to the concept of *mundane realism.* Experimental tasks are said to have mundane realism when they closely resemble activities that are common in natural settings. For example, activities in an experiment might be realistic in this mundane way when participants are asked to read a newspaper story about an obscure issue in a foreign country. This study might be considered as having a great deal of mundane realism because it uses activities common in everyday life (reading a newspaper). Yet the study may also be considered as

lacking in *experimental realism* (the extent to which the activities are meaningful and have an impact on participants) if the topic of the newspaper article is uninteresting and fails to engage participants.

Ecological validity does not simply reflect an absence of experimental realism, because there are certainly many engaging and influential activities that form core aspects of everyday life. In fact, one might distinguish between mundane realism and ecological validity by noting that, in the real world, people would be relatively unlikely to spend time reading a newspaper article about a topic about which they know and care very little. Thus, although newspaper reading itself seems to reflect everyday activities quite well (mundane realism), the use of that activity in the experimental setting may diverge from the ways and reasons people typically read newspapers. That is, findings based on the use of this activity may lack ecological validity.

In this sense, ecological validity is also related to *psychological realism* (the extent to which the psychological processes operating in an experiment also occur in everyday life). When discussing psychological realism, it is important to distinguish between the specific activities and materials used in a study (mundane realism), the likely impact of the activities and materials (experimental realism), and the types of psychological processes that participants use to complete the activities in the study. Even if the activities in a study bear little resemblance to real-world activities (low mundane realism) and have relatively little impact on participants (low experimental realism), the thought processes that participants use in the study may be quite common in the real world (high psychological realism). For example, if a study involves judging words as quickly as possible as they appear on a computer screen, this would not be a typical activity in everyday life, and the words may not create strong reactions in research participants. However, if the words are activating concepts that then help people to quickly comprehend the next word on the screen, this may demonstrate a psychological process (concept activation) that is extremely common in everyday life.

Researchers might reasonably ask whether ecological validity is always valued. To be sure, all else being equal, researchers would prefer that their findings replicate in real-world settings. However, as noted earlier, psychological processes that would operate in many everyday settings may be more efficiently and

effectively tested using methods that remove much of the messiness (lack of experimental control) of real-world settings. Especially when one is testing specific psychological theories and doing so by isolating particular variables within the theory, ecological or even external validity more generally may not be of the utmost importance. When seeking to intervene in specific applied settings, however, one would certainly want to make sure that the intervention of interest is able to influence behavior even with all of the messiness of the natural environment. This may be more likely if the intervention is developed on the basis of research that incorporates as many features of the real-world environment as possible.

Despite ecological validity being relevant to which settings a result might generalize, the reader should note that ecological validity is not the same as external validity. There is no guarantee that an effect found in a specific, ecologically valid setting is more likely to generalize across settings (a key aspect of external validity) than is an effect found in a more artificial laboratory setting. Although a study conducted in a coffee shop might produce results that are more likely to generalize to coffee shops, the results of the study may be no more likely to generalize across many settings (such as courtrooms, boardrooms, or classrooms) than a study conducted in a laboratory where background noise is more carefully controlled. Support for external validity can be garnered from replications of an effect at different points in time and in different places, even if all of those places are quite artificial and all lack ecological validity.

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See also Mundane Realism; Research Methods

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EFFORT JUSTIFICATION

Definition

Effort justification is the idea that when people make sacrifices to pursue a goal, the effort is often rationalized by elevating the attractiveness of the goal. In other words, people sometimes come to love what they suffer to achieve. The effort justification hypothesis is derived from cognitive dissonance, one of the best-known theories in social psychology. Dissonance theory emphasizes how inconsistencies among important cognitions can be motivating, often by bringing one's attitudes in line with one's behavior. It has been broadly applied. With effort justification, the potentially dissonance-arousing question is whether the sacrifices one is making to achieve a goal are worth it.

The definition of *effort* used by dissonance theorists has been broad. It includes not only the literal expenditure of physical and mental energy but also sacrifices such as payment of a fee and enduring embarrassment. From the standpoint of the effort justification hypothesis, the exact nature of the effort is less important than its magnitude. In fact, some evidence suggests that, once a person is committed to a course of action, the mere anticipation of effort can lead to justification even before the effort is actually undertaken. Regardless of the nature of the effort or whether it is actual or anticipated, the underlying, dissonance-based logic is the same: motivated thinking to rationalize the effort.

A straightforward effort justification prediction that has been supported by research is that the more effort that is expended on a task, the more the task will be liked. For example, when participants in an experiment are asked to perform a task such as circling numbers, the task is subsequently liked more when undertaken with instructions that make it high (vs. low) in effort.

Applications: Group Initiation Rituals

The relevance of effort justification for such processes as initiation into groups was evident early in cognitive dissonance research. In a classic experiment, participants were asked to pass an embarrassment-based screening test before being admitted into a discussion group on sex. The test was in fact bogus (all participants passed), but it allowed for a manipulation of effort required to enter the group. Participants who underwent

a highly embarrassing screening subsequently rated both the group members and the discussion as significantly more interesting than did participants who undertook a mildly embarrassing screening (or no screening at all).

If effort enhances liking for, and commitment to, the group, it is easy to understand why many groups have initiation rituals that one must pass before becoming a full-fledged member. Hazing is a long-standing practice associated with Greek organizations in college and sports teams more generally. Military boot camps are grueling trials through which soldiers must pass. And anthropology provides many examples of societies that require difficult, and sometimes dangerous, rites of passage between adolescence and adulthood. From the standpoint of effort justification, these diverse activities accomplish a common outcome: greater attraction to the group.

Applications: Psychotherapy

Although psychotherapy can be undertaken for many reasons and can take many forms—cognitive behavioral, psychodynamic, individual, group—in each case the client is required to expend effort to achieve a goal. If effort justification results in enhanced goal attractiveness, then the process might serve as a common factor that contributes to the success of diverse therapies.

Evidence for this comes from several studies that use therapies that are bogus from the standpoint of traditional theories of psychotherapy but which require the expenditure of effort. For example, people with snake phobia or who are underassertive might be asked to engage in physical exercise; overweight women might be asked to speak into a machine that makes fluent speech difficult; or speech-anxious participants might be asked to proofread. In each case, on subsequent behavioral assessments, the bogus therapy produced significant improvement compared to a lower-effort version of the same therapy or a no-therapy control group.

An interesting implication of this perspective is that if therapies are free, the motivation to engage in effort justification will be reduced. Even a nominal fee might take better advantage of cognitive dissonance.

Boundary Conditions

Effort does not always enhance goal attractiveness. If it did, more children would like school and fewer marriages would end in divorce. Cognitive dissonance research has shown that people's tendency to rationalize their behaviors is greatest when they see themselves as freely choosing the behavior (especially by public commitment), when the expected sacrifice is known beforehand, and when external justifications for the behavior are low. In the psychotherapy studies described previously, for example, the beneficial effects of effort therapies are seen only when participants' choice for undertaking the procedures (as well as their aversive nature) is emphasized beforehand.

Even when conditions are ripe for dissonance, effort may not always lead to enhanced goal attractiveness. Other ways to rationalize the effort (suggested by decades of dissonance research) include minimizing one's perception of the sacrifice being made or retrospectively minimizing one's perceived choice for undertaking the effort.

Implications

At least two important implications seem to follow from effort justification. First, it is likely to have functional benefits for groups. By increasing attraction and commitment to the group, group cohesion and stability are enhanced. Second, effort justification is likely to increase persistence at tasks that are not altogether pleasant, especially when such tasks are seen as chosen. Many worthwhile outcomes in life require short-term sacrifice to achieve longer-term gain. By encouraging such sacrifice, effort justification is functional to the individual and the group.

Of course, what is functional is not always good. Attractive, cohesive groups may be more prone to groupthink, and persistence at lost causes can be destructive. For example, the persistence of the American war effort in Vietnam in the face of escalating costs and decreasing likelihood of success has been analyzed using effort justification.

Danny Axsom

See also Autonomy; Cognitive Dissonance Theory; Group Dynamics; Motivated Cognition; Motivated Reasoning

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EGOCENTRIC BIAS

Definition

Most people know more about themselves than they know about others. This is true in part because people tend to pay more attention to themselves than to others and in part because people have privileged access to information about themselves (e.g., private thoughts, emotions) that is unavailable to others. Because it is so plentiful, information about the self can exert a disproportionate influence on various kinds of judgments. When it does, that tendency is known as an egocentric (i.e., self-centered) bias.

As an example of an egocentric bias, consider how people divide up the credit for collaborative endeavors. When individuals work together on a task, such as a sales team that works to market a new product or students who collaborate on a class assignment, each person, on average, tends to assign him- or herself a bit more of the credit for the group's output than the others feel he or she deserves. Thus, if you add up the proportion of the work that each collaborator claims to have contributed, you usually end up with a sum that exceeds 100%. (Logically, of course, this cannot be; if three collaborators each believe they have done 50% of the work—a total of 150%—then one or more of them are mistaken.) Why does this happen? Some of it is an unscrupulous "grab for credit" in which people falsely claim to have done an inflated share of the work to claim an inflated share of the rewards (a sales bonus or a course grade). But it also stems in part from an egocentric bias in recalling one's own contributions. Simply put, people have an easier time remembering their own inputs than those of others. The ideas *we* contributed at a sales meeting or the hours *we* spent in the library are easier to remember than those that others contributed.

When it comes time to determine each collaborator's share of the credit, then, the relative ease with which our own contributions come to mind makes them seem as though they were more numerous than they actually were, causing us to overestimate them. Indeed, because one's own inputs are easier to recall even when they are unflattering, this bias occurs even when people wish to *minimize* their role in a collaborative endeavor. Married individuals in one study who were asked to divide responsibility between themselves and their spouse for several household activities claimed more than their fair share of the credit not only for positive activities ("cleaning the dishes") but also for negative ones ("causing arguments").

This is just one example of an egocentric bias. Our self-centered perspectives give rise to many others, including a tendency to overestimate how successfully we communicate with others (assuming others understand what we understand), a tendency to overestimate how much others share our attitudes and preferences (assuming others feel as we do), and a tendency to believe others are paying attention to us more than they are (assuming we stand out to others as much as we do to ourselves).

Ken Savitsky

See also Accessibility; Availability Heuristic; Self; Self-Reference Effect; Self-Serving Bias

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EGO DEPLETION

Definition

Ego depletion refers to the loss of a personal resource (and associated breakdown in performance) due to the previous exertion of self-control or other effortful and willful acts of the self. Ego depletion may be especially important in understanding why self-control fails and what the processes are that underlie self-control.

The model of ego depletion suggests that individuals have a fixed amount of resource to exert self-control or perform other effortful and willful acts of the self. This resource, called ego strength, is required for any and all self-directed efforts (in particular, self-control and making choices that are relevant to the self). This ego strength is consumed or depleted in the process of self-control, however. In addition, this ego strength is recovered slowly, so that it remains depleted for some time after the exertion itself. Thus,

the process of exerting self-control or making choices reduces the amount of ego strength available for future self-control efforts. Moreover, the success of self-control depends on ego strength: When ego strength is depleted, self-control is more likely to fail. Hence, individuals whose ego strength has been depleted through the previous exertion of the self's will are more likely to suffer a loss of self-control, because the success of self-control depends on having enough strength to fight off the temptation. In short, the exertion of self-control can lead to poorer self-control subsequently, through the exhaustion of self-control strength, a process known as ego depletion.

Evidence

Although a direct measurement of individual's ego strength is not yet possible, scientists can investigate the effects of ego depletion by examining self-control performance. In particular, researchers have focused on how exerting self-control affects subsequent self-control performance. Consistent with the process outlined in the previous section, individuals perform more poorly on a task that requires self-control after exerting self-control, as compared to individuals who worked on an equally frustrating, arousing, and unpleasant task that did not require self-control. For instance, in one experiment, individuals who were asked not to eat freshly made chocolate chip cookies (a highly tempting food that requires a great deal of self-control not to eat) subsequently quit working on a difficult puzzle sooner than individuals who were asked not to eat radishes (a less tempting food that requires only a little self-control not to eat). Despite the differences in final self-control performance, the groups did not differ in mood or arousal; the differences in persistence on the frustrating puzzle appeared to be the result of how much self-control was required by the initial task.

Subsequent research illustrates the importance of ego strength in self-control. Underage drinkers were asked to record their alcohol intake on a palm-top computer for more than 2 weeks. They also reported their moods, urge to drink, and self-control demands on this computer. On days that they reported greater self-control demands than average (and hence were more ego depleted), they were more likely to drink alcohol, consumed more alcohol when they did drink, and became more intoxicated. Most important, when they were ego depleted, these drinkers reported consuming more alcohol than they intended. In other words,

they had trouble controlling their alcohol intake when ego depleted. Additional analyses indicated that self-control demands did not increase the urge to drink, but instead undermined their ability to self-regulate.

Importance and Implications

Ego depletion may help explain why self-control breaks down, despite a person's best intentions. If a person's level of ego strength is depleted, he or she may find it difficult to resist temptations, as demonstrated in the research on underage drinkers. Because many important behaviors require self-control, the process of ego depletion can have broad ranging effects, from increased criminal behavior and prejudice to picking fights with significant others and even a decline in intellectual performance. Likewise, everyone has many demands on his or her ego strength throughout the day. Besides resisting temptations, research has found that making personally difficult choices, controlling moods and thoughts, trying to make a good impression, and even ignoring someone depletes ego strength. Indeed, there is evidence that individuals are more likely to suffer a breakdown in self-control in the evening as compared to the morning because of the amount of self-control that everyone has to exert throughout the day.

Because of the many demands on our ego strength and the importance of self-control, self-management of ego strength is key. Individuals may decide what self-control tasks are important (and hence will deplete ego strength on) and which are less important. Both external and internal motivators likely shape this decision. This means that the conservation of ego strength is critical and can help explain the difference between individuals and situations in self-control outcomes.

It is also important to realize that exerting self-control may lead to eventual increases in ego strength. In the same way that lifting a heavy weight fatigues a muscle and leads to weakness until the person has had a chance to rest, exerting self-control appears to deplete ego strength. However, much as lifting weights leads to greater strength and increased resistance to fatigue with rest and proper training, the judicious regular exertion of self-control may lead to better self-control performance in the long run.

Mark Muraven

See also Executive Function of Self; Self; Self-Regulation

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EGO SHOCK

Definition

Ego shock refers to feeling mentally paralyzed or frozen in response to severe self-esteem threats. Individuals in a state of ego shock have trouble thinking; they feel distant from themselves; the world seems distant or strange; they feel emotionally numb. The experience of ego shock is temporary, usually only lasting for seconds or minutes.

Context and Importance

Ego shock typically occurs when individuals experience extreme blows to their self-esteem. One of the most common causes of ego shock is rejection by friends or romantic partners. For example, having a girlfriend or boyfriend unexpectedly say that you are worthless and ugly might lead to an experience of ego shock. There might be an immediate experience of mental paralysis or strangeness that comes over you. The ego shock then passes and other thoughts and feelings, such as anger, sadness or blame, may emerge. Other causes of ego shock include academic failure (such as being turned down for admission by a prestigious university), athletic failures (such as missing a free throw at the last second of a championship game and causing your team to lose), and moral failures (stealing something from a store and then being caught). Fortunately, these are rare experiences: Ego shock does not occur frequently.

Ego shock can have both negative and positive consequences for the person. In the short term, people who are in a state of ego shock have difficulty controlling themselves. Because of this, they are more easily influenced by social circumstances. For example, if someone hands them a bottle of whiskey and says, "Drink this," the person in a state of ego shock is more likely to do so. In the long term, the experience of ego shock can also have negative consequences. People may respond to ego shock by giving up on what had caused the blow to their self-esteem. For example, a person may swear off dating or quit playing basketball.

On the other hand, ego shock can have certain benefits. It is possible that the experience of ego shock actually protects the person psychologically in the short term following self-esteem threat. Rather than mentally disintegrating or behaving destructively, the person goes numb. In the longer term, individuals who experience ego shock often change their lives in positive ways. After the shock of a major academic failure wears off, for example, students may redouble their efforts to succeed and actually become better students than they were before.

No one knows the exact cause of ego shock. It may be an adaptive or protective feature that has evolved to help preserve the personality in the face of threatening information. Ego shock may also simply reflect a mechanical failure in the brain. When information comes in that is too extreme and negative to process effectively, the brain simply shuts or slows down temporarily.

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See also Rejection; Self; Self-Esteem; Self-Serving Bias

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ELABORATION LIKELIHOOD MODEL

Definition

The elaboration likelihood model (ELM) of persuasion is a theory about how attitudes are formed and changed. This theory organizes the many different attitude change processes under a single conceptual umbrella. The ELM was created to provide a framework to help explain the many seemingly inconsistent

findings in the persuasion literature. Sometimes a variable (e.g., distracting the person reading a message or associating the message with an attractive source) would enhance persuasion, sometimes it would reduce persuasion, and sometimes it would have no effect. Furthermore, sometimes attitude change would last over time and would predict behavior, but sometimes it would not. The ELM provides a framework to help researchers understand the factors responsible for these conflicting findings.

Elaboration Continuum

The extent to which people elaborate in response to a message is reflected in the extent to which they generate their own thoughts or reactions to the message. The generation and consideration of these thoughts will vary, depending on how much mental effort the person is willing and able to exert. That is, the ELM recognizes that sometimes people think a lot about an issue or message, and sometimes they hardly pay any attention to it at all. Depending on the extent of elaboration, different processes can be responsible for attitude change, often with different outcomes.

Two Routes to Persuasion

The ELM also distinguishes between two routes to persuasion: the central route and the peripheral route. Central route processes are those that require a great deal of thought and therefore are likely to occur under conditions that promote high elaboration. Central route processes involve careful examination of a persuasive communication (e.g., a speech, an advertisement) to determine the merits of the evidence presented. Under these conditions, a person's thoughts in response to the communication and their confidence in these thoughts determine the persuasive outcome (i.e., the direction and amount of attitude change). The more positive thoughts people have to a message, such as a proposal to cut taxes (e.g., "I'll make more money if taxes are cut") and the more confidence they have in these thoughts, the more persuaded they will be by the message. On the other hand, the more negative thoughts that people have to a message (e.g., "the tax cut will hurt poor people") and the more confidence they have in these thoughts, the less persuaded they will be by the message.

Because people are carefully assessing the information in a persuasive communication for its merits under the central route, the perceived quality of this evidence is a very important determinant of persuasion. If the evidence for some proposal is seen as strong, a person is more likely to have favorable thoughts about the position and is likely to form a proposal-consistent attitude. If the evidence is seen as weak, however, then the person is likely to have unfavorable thoughts with regard to the message position and may even form an attitude that is opposite to the advocated position. The thoughts that occur in the central route can be relatively objective (fairly evaluating each argument), or they can be biased by other factors (e.g., a sad mood). A number of factors will determine whether people have confidence in the thoughts that they generate, such as how quickly the thoughts come to mind (more easily accessible thoughts are held with more confidence) and the credibility of the person who presents the arguments (people have more confidence in thoughts generated to a credible source).

Peripheral route processes, on the other hand, require relatively little thought and therefore predominate under conditions that promote low elaboration. In the peripheral route, the strength of the evidence presented matters less. Instead, in peripheral route processes, people often rely on judgmental heuristics (e.g., "experts are always right") or cues taken from surface features of a message (e.g., the number of arguments presented), its source (e.g., their attractiveness), or other factors (e.g., being in a good or bad mood). That is, people might go along with a proposal just because they like the source and not because they have considered the merits of the issue. In addition, peripheral route processes can occur without awareness, such as in classical conditioning or mere exposure.

Determinants of Elaboration

Which route a message recipient takes is determined by the extent of elaboration. When elaboration is high, central route processes will predominate, but when elaboration is low, peripheral route processes will predominate. Under conditions of moderate elaboration, a mixture of central and peripheral route processes will be responsible for attitudes. Both motivational and ability factors determine elaboration. Motivational factors include (among others) how personally relevant the message seems, how accountable the person feels for evaluating the evidence presented, and the person's need for cognition (i.e., his or her intrinsic enjoyment of thinking). Factors affecting one's ability to process a message include how much distraction is present, the time pressure to decide, and the amount of

issue-relevant knowledge one has regarding the proposal (e.g., when a message uses a lot of technical jargon that requires specific knowledge to understand).

Consequences of Persuasion

Not only can the processes that occur under high and low elaboration be different, but the consequences of these processes also differ. Attitudes formed under high elaboration are stronger in that they are more predictive of behavior and information processing, more stable over time, and more resistant to future persuasion than those formed under low elaboration. This is because careful thought about an issue leads to the development of a more consistent, coherent, accessible (i.e., comes to mind readily), and confidently held representation of the attitude object.

Multiple Roles for Persuasion Variables

One of the most important features of the ELM is the proposition that variables can serve multiple roles in a persuasive setting depending on other contextual factors. The variables that serve multiple roles can include any aspect of the persuasive communication, such as the message itself (e.g., number of arguments, complexity of language), its source (e.g., credibility, attractiveness), the recipient (e.g., their mood, preexisting attitudes), or other contextual variables (e.g., the color of paper on which the message is printed). For example, under high elaboration, a given variable (e.g., source attractiveness) will be processed as an argument and examined as to whether it provides compelling evidence for the position advocated (e.g., "If she looks that good after using that shampoo, maybe I will too"). In addition, the same variable can sometimes serve to bias the ongoing thinking. Some variables, like source attractiveness or a positive mood will typically bias the information processing in a positive way (e.g., "I really want to like her so I'll see if I can agree with the message"), whereas others will introduce a negative bias. Among the latter variables are the knowledge that the message source is attempting to persuade you or a preexisting attitude toward the issue (e.g., if your original attitude disagrees with a speaker, you may defend your existing attitude and focus on finding the flaws in the speaker's arguments). If, however, a person becomes aware that something may be biasing his or her thinking, and the person

wishes to correct for the bias, attitudes can be corrected. That is, people can adjust their attitude in the direction and magnitude opposite to the perceived direction and magnitude of the biasing factor. Thus, if one person thinks that an attractive source produces a huge bias, he or she will make a large adjustment to his or her attitude in a direction opposite the perceived bias. This correction process is likely to occur under high elaboration, because it requires both motivation and ability to perform.

A third role that variables can play under high elaboration is to affect a person's confidence in the thoughts that were generated (e.g., "That model really knows about fashion so I can trust my thoughts"). Confidence is a metacognition because it is a thought about a thought. In this case, one thought is the thought in response to the message (e.g., "this product sounds very useful"), while the other thought is about the first thought (e.g., "I am confident that my thoughts about this product are valid"). Many variables have been shown to affect thought confidence. In one study, for example, students who were induced to nod their heads (as if saying "yes") during the presentation of a message had more confidence in their thoughts than people who were induced to shake their heads (as if saying "no") during the message. When the message contained strong arguments, nodding led to more persuasion than shaking because people had more confidence in their favorable thoughts to these strong arguments, but when the message contained weak arguments, nodding led to less persuasion than shaking because people had more confidence in their unfavorable thoughts. This confidence effect only occurred when elaboration was high.

Under conditions of low elaboration, the same variable that served as an argument, biased thoughts in response to the message, or affected thought confidence can act as a cue or heuristic (e.g., "if she likes the car, so do I"). Note that if an attractive person were processed as an argument for a car, it would not be a very compelling argument and might lead to no persuasion, whereas when this attractive person is processed as a simple cue, more persuasion would result.

Under conditions where elaboration is not constrained to be high or low, a given variable can serve to increase or decrease the extent of elaboration (e.g., "I am curious as to what this attractive person thinks, so I'll pay careful attention"). When variables affect elaboration, they can increase or decrease persuasion, depending on the strength of the arguments presented.

For example, if a variable (e.g., source attractiveness) increases elaboration, persuasion will be enhanced when strong arguments are presented but decreased when weak arguments are presented. With the multiple roles postulate, the ELM explains how the same variable can bring about attitude change in different ways (e.g., serving as a cue, biasing processing) with different consequences.

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See also Attention; Attitude Change; Attitude Strength; Dual Process Theories; Motivated Cognition; Need for Cognition; Persuasion; Resisting Persuasion

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ELEVATION

Definition

Novels, films, religious texts, and popular books often provoke a feeling in the viewer of being moved by the moral excellence of another person. Drawing upon Thomas Jefferson's own analysis of this emotion, Jonathan Haidt has called this *emotion elevation*. According to Jefferson, *elevation* is the desire to perform acts of charity or gratitude when presented with same and, on the contrary, the sense of abhorrence when presented with an appalling deed.

Usage and Analysis

Elevation is elicited by acts of charity, gratitude, fidelity, generosity, or any other strong display of virtue that runs counter to current expectations. In this way, elevation differs from a closely related emotion, awe, which occurs when the individual encounters something that is vast and beyond current expectations. People experience awe in response to transcendent and vast objects in art, in nature, and for some, in religious experience. People experience elevation, in contrast, in response to the morally virtuous actions of others.

Jefferson's analysis points to other hypotheses that are beginning to be investigated. What is the physiological sensation of elevation? People report feelings of the opening and swelling in the chest. These sensations may trace back to the activity of the vagus nerve, which is a bundle of nerves originating in the top of the spinal cord. Research finds that when the vagus nerve is activated, shifts in breathing and heart rate occur, and people tend to feel prosocial sentiments, such as compassion, as well as engage in prosocial behavior aimed at attending to the needs of others.

Perhaps more intriguing is the question of whether the experience of elevation inspires morally virtuous action? For Jefferson, elevation was a source of charity and gratitude. Does witnessing another's selfless action inspire altruism and benevolence in the viewer? As yet there is no evidence to support this, but the answers to this question will have important implications for the study of how people learn to be moral actors and how cooperative communities form.

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See also Awe; Emotion; Helping Behavior

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EMBARRASSMENT

Definition

Embarrassment is the emotion that results when social predicaments increase the threat of unwanted evaluations from real or imagined audiences. It occurs when people realize that they are making undesired impressions on others, and it usually strikes without warning

when some misstep or abrupt change in fortune puts people in awkward situations. It is characterized by feelings of startled surprise, ungainly awkwardness, and sheepish abashment and chagrin. Embarrassed people typically feel painfully conspicuous and clumsy; they rue their circumstances and may be mortified or even humiliated by the unwelcome judgments they presume from others.

Context and Importance

Embarrassment is clearly an emotion: When it occurs, it strikes quickly and automatically in a manner that people cannot control, but it lasts only a short time. Moreover, embarrassment is a distinctive emotion that is unlike any other: It has unique antecedents and physiological effects, it elicits singular feelings and behaviors, and it has particular effects on people's interactions with others.

The events that cause embarrassment range from individual blunders—in which people rip their pants, spill their drinks, or forget others' names—to more complex circumstances in which interactions take awkward turns or innocent victims are made the butt of practical jokes. The common element in these events is that they all convey to other people unexpected, unwelcome information that threatens to make an unwanted impression. Because embarrassment arises from acute concerns about what others are thinking, it is unlikely to occur if one genuinely does not care what one's present audience thinks.

When it occurs, embarrassment engenders a notable physical reaction, blushing, which is caused by dilation of veins in the neck and face that brings blood closer to the surface of the skin. A distinctive pattern of nonverbal behavior also occurs: When embarrassment strikes, people avert their gazes and try not to smile, but they usually break into sheepish grins that are recognizably different from smiles of real amusement. They may bring their hands to their faces, bow their heads, gesture broadly, and stammer, and when this sequence of behavior is accompanied by a blush, embarrassment is easy to detect.

The feelings that result from embarrassment are less painful than those that result from shame. Embarrassment causes sheepish discombobulation, whereas shame (which follows darker, weightier wrongdoing) is characterized by spiteful disgust and disdain for one's flaws. Embarrassment is also quite different from shyness, the state of fretful trepidation over potential disapproval that has not yet occurred.

Shyness operates as a mood that may persist for long periods of time, whereas embarrassment strikes suddenly in response to actual predicaments but then quickly fades.

Abashed and chagrined, people who are embarrassed are usually contrite and eager to please. Their behavior is typically helpful and conciliatory as they try to repair any insult or damage they may have caused. Perhaps for that reason, embarrassment usually elicits positive reactions from those who witness it. Audiences routinely respond to someone's obvious embarrassment with expressions of sympathy and support, and when some public transgression occurs, observers like people who become embarrassed more than those who remain unruffled and calm. Embarrassment that is proportional to one's predicament actually elicits more favorable evaluations after some misbehavior than poised imperturbability does.

Evidence

Embarrassment's links to social evaluation emerge from three types of evidence. First, people who lack the self-conscious ability to understand what people are thinking of them—such as very young children or adults with damage in certain areas of the prefrontal lobes of their brains—do not experience embarrassment. Second, it takes years for our cognitive abilities to develop fully, and only when they are able (around 10 years of age) to comprehend others' points of view do children become embarrassed by the same subtle situations that embarrass adults. Third, some people are more susceptible to embarrassment than others are, and people who embarrass easily tend to be sensitive to social evaluation; they dread disapproval and they fear that others' judgments of them are more negative and rejecting than they really are.

Importantly, if audiences are shown tapes of shoppers who clumsily cause damage in a grocery store, they like those who respond to their predicaments with evident embarrassment more than those who remain cool and calm. Furthermore, diary studies demonstrate that, as it unfolds in actual interactions, a person's embarrassment is usually met with kindly responses from those who encounter it. Evidently, embarrassment is a desirable reaction to social missteps that threaten to portray a person in an unwanted manner.

Implications

Embarrassment's nature and its interactive effects are consistent with the provocative possibility that

embarrassment evolved to help forestall social rejection that might otherwise threaten one's survival in difficult ancestral environments. In occurring automatically when a person becomes aware of some misbehavior, embarrassment interrupts the person's activity and focuses his or her attention on his or her predicament. It also provides a reliable nonverbal signal that shows others that a person both recognizes and regrets his or her misconduct: A blush cannot be faked or consciously controlled, so it demonstrates that a person's abashment is authentic and his or her contrition sincere. That may be why others then routinely respond to a person's embarrassment with kindly support, despite the person's missteps; a person's embarrassed emotion reassures them of his or her good intentions. It is sometimes goofy and usually unpleasant, but embarrassment provides a handy mechanism with which to manage the inevitable pitfalls of social life.

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See also Emotion; Moral Emotions

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EMOTION

Definition

Emotions can be defined as psychological states that comprise thoughts and feelings, physiological changes, expressive behaviors, and inclinations to act. The precise combination of these elements varies from emotion to emotion, and emotions may or may not be accompanied by overt behaviors. This complex of states and behaviors is triggered by an event that is either experienced or recalled. Someone insults you. Depending on the nature of the insult and your perception of the extent to which it was or was not intended to hurt you, you might feel angry or annoyed. If you feel angry, your face may redden, your heart may beat faster, your fists clench, and thoughts of retribution occur to you. In some cases you might take action against the person who was insulting. Days later, recalling the insult may re-evoke at least some features of the original emotional reaction. Similarly, clear-cut cases of emotion could be given for fear, joy, love, disgust, and sadness, among many others. However, there are also emotions that are less clear-cut, in that they do not always involve changes in physiological or motivational states and do not always result in behavioral change. Take the example of regret. Having made a decision or taken a course of action that turns out badly, one may well feel strong regret, but this subjective experience will typically not be accompanied by changes in physiology or behavior.

Further complications arise when considering psychological states that seem to be borderline cases of emotion: physical pain, generalized or free-floating anxiety, sexual arousal, boredom, depression, irritability, all of which can be seen as examples of affective states. Psychologists who study emotion tend to distinguish between affective states that have a clear object and those that do not, arguing that *emotion* is a term that should be reserved for psychological states that have an object. On this basis, chronic pain, general states of boredom, depression, or irritability would not be classed as emotions, whereas sexual arousal—to the extent that it has a clear object—would be treated as an emotional state. The distinction between affective states that have an object and those that do not is one that separates emotions, on one hand, from moods (e.g., irritability, boredom) and affective dispositions (depression, generalized anxiety), on the other.

Recognizing the difficulties inherent in trying to arrive at watertight definitions of what constitutes an emotion, theorists are generally agreed in regarding emotion as a set of states that has a fuzzy boundary with other psychological states, such as beliefs, attitudes, values, moods, and personality dispositions. What is not in dispute is that the set of states called emotion is defined by good examples, such as anger, fear, and passionate love. Where there is room for doubt, at or near the fuzzy boundary with neighboring states, psychologists are generally unconcerned with whether the state in question is an emotion. The difficulty of defining emotion is thereby finessed.

History and Background

Modern emotion theory is usually traced back to the writings of Charles Darwin or William James. Writing in the second half of the 19th century, these authors focused on issues that are still the subject of research and debate nearly 150 years later. Darwin's focus was on the relation between subjective emotion and overt

behavior. He argued that three principles explain the relation between emotions and expressive behavior. Of these, the first, the principle of serviceable associated habits, is the one most commonly linked to Darwinian explanations for expressive behavior. Here the argument is that movements of the face that originally served a purpose during emotional experiences have become automatic accompaniments of those emotions. Thus, the frowning that often accompanies anger might help to protect the eye socket by drawing the brows forward and together, or the eye widening that often accompanies surprise might help to take in more visual information when sudden, novel events occur. Surprisingly, given the general theory of evolution for which Darwin is better known, his writings on emotional expression did not treat this expression as the outcome of a process of natural selection. Rather, he saw the emotion–expression link as a learned habit that then gets passed on to one's progeny. However, modern evolutionary theory can readily be applied to this issue, resulting in the view that it was the adaptive significance for the individual or the group that led to emotions being outwardly expressed. The notion that there is a close relation between emotional experience and bodily expression is certainly one that is echoed in modern emotion theory.

James focused on the fundamental question of the determinants of emotion. James advocated what has come to be called a *peripheral theory* of emotion, in which he argued that the perception of an arousing stimulus causes changes in peripheral organs, such as the viscera (heart, lungs, stomach, etc.) and the voluntary muscles, and that emotion is quite simply the perception of these bodily changes. To use James's own example, it is not that people tremble and run because they are afraid; rather, they are afraid because they tremble and run. This raises the question of how the bodily changes come about. Here James argued for a direct link between perception and bodily change, using the analogy of a lock and a key. The fit between the perception of emotion-arousing stimuli and the human mind is, in James's view, such that the stimuli automatically unlock physiological changes in the body, and it is the perception of these changes that is the emotion. The idea that there is a close link between perception and emotion, relatively unmediated by conscious cognition, is still found in modern emotion theory, as is the notion that changes in the peripheral activity of the body results in changes in emotion.

A third major plank in the theoretical analysis of emotion in psychology came with the rise of cognitivism (i.e., close study of mental processes) in the 1960s. The first proponent of a view that came to be known as *appraisal theory* was Magda Arnold. She argued that what makes people experience an emotion is not bodily change, but rather the cognitive process that makes one kind of stimulus emotionally arousing while another kind of stimulus leaves people cold. The difference, she argued, is that the emotionally arousing stimulus is personally meaningful and matters to people. Unless the stimulus matters to people, they will not become emotional. Clearly, what matters to one person may leave another person cold. This emphasis on subjective meaning in appraisal theory led researchers to shift their attention from the objective properties of emotional stimuli to the subjective processes (appraisal processes) by which perceivers attach significance and meaning to stimuli. Modern emotion theory is very much concerned with this process of meaning making.

Notice that these three key sources of influence on modern emotion theory map rather neatly onto three of the supposed components of emotion: expression, physiological activity, and cognitions. Before examining each of these three components in greater detail, consider the connection between emotion and social psychology.

Social Psychology and Emotion

Emotion is a topic studied within many subdisciplines of psychology, including clinical psychology, biological psychology, and developmental psychology. Yet if one reviews the history of psychological theory and research on emotion, it is noticeable that social psychologists have played a prominent role. In one sense this is surprising. There are certainly emotional reactions that have little or nothing to do with the social world that is the primary concern of social psychologists: Think of fear of heights, of snakes, or of grizzly bears. Yet these emotions are not typical of the range of emotions that people experience in everyday life. As noted earlier, emotions are always about something: They have an object. This object is very often social. It is a person (a rival for your loved one's affection), a social group (an organization that does inspiring work in developing countries), a social event (your favorite sports team winning a trophy), or a social or cultural artifact (a piece of music). It turns out that these social objects are much more likely than nonsocial objects to be the source of our everyday emotions.

Furthermore, many emotions are either inherently or functionally social, in the sense that they either would not be experienced in the absence of others or seem to have no other function than to bind people to other people. Emotions such as compassion, sympathy, maternal love, affection, and admiration are ones that depend on other people being physically or psychologically present. Fear of rejection, loneliness, embarrassment, guilt, shame, jealousy, and sexual attraction are emotions that seem to have as their primary function the seeking out or cementing of social relationships.

A final point concerning the link between emotion and social life is that when people experience emotions, they have a strong tendency to share them with others. In research on what is called the *social sharing of emotion,* investigators have shown that the overwhelming majority of emotional experiences are shared with others, are shared with several others, and are shared soon after the triggering event. Moreover, this sharing of emotion with others elicits emotional reactions in the listeners, which is itself an interesting phenomenon, depending as it does on the listener's tendency to empathize with the sharer. And the emotions experienced by the listeners tend to be shared with third parties, a phenomenon called *secondary social sharing.* There is an interesting paradox here. People tend to share their emotional experiences, some of which may be painful or shaming, with intimates because they trust them not to share their secrets with others. And yet these intimates are the very ones who are likely to empathize with other people and therefore to experience emotions themselves as a result of listening to what others divulge. This makes it likely that they will engage in secondary social sharing.

These points make it clear that emotions are invariably social in nature: They are about social objects, their function seems to be social, and they have social consequences. A parallel point is that the subject matter of social psychology is invariably emotional in nature: Topics such as close relationships, aggression and hostility, altruism and helping behavior, prejudice and stereotyping, and attitudes and persuasion entail concepts and processes that are often explicitly emotional. In short, there is an intimate connection between emotion and social psychology, which in turn helps to account for the prominent role that social psychologists have made to emotion theory and research.

This entry will now return to the three components of emotion identified earlier, namely, physiological changes, cognitions, and expressive behaviors, and review modern developments in research on each component.

Physiological Change

The theory of emotion proposed by James, already referred to, is one that places physiological change at the center of emotion. As James put it, if people could imagine themselves perceiving an emotional stimulus without any accompanying bodily changes, the result would be a pale and colorless imitation of the real emotion. This seems correct in the case of emotions such as fear and anger: What would such experiences be if they were stripped of all the accompanying physiological changes? For James, this was evidence of the necessary role played by such bodily activity. However, there are several possible problems with James's approach, one of them being the fact that the large variety of emotion terms found in English and many other languages is not matched by an equally large variety of distinguishable patterns of physiological activity during emotion. This is one of five problems noted by Walter Cannon who focused his attention on that aspect of James's theory concerning visceral changes in organs such as the heart, as opposed to changes in voluntary muscles such as those in the face or the limbs. Another of the problems noted by Cannon is that visceral changes tend to be rather slow, whereas emotional reactions can be, and often are, rather fast. If this is the case, how can the experience of an emotion be the perception of the bodily changes that occur on exposure to the right emotional stimulus?

These were some of the considerations that Stanley Schachter took into account in developing his two-factor theory of emotion. Schachter had previously conducted research on the way in which people who were made to feel anxious and uncertain liked to be in the company of other people who were in the same situation, so that they could compare their own emotional reactions with those of other people. This suggests that social context may play an important role in emotion, by helping people to interpret their stirred-up internal state. Rather than there being a particular pattern of bodily change associated with each subjectively distinguishable emotion, Schachter suggested that the key role played by bodily change was to energize emotion; without a state of physiological arousal, no emotion would ensue. Bodily change, on this account, is a necessary but not sufficient condition for emotion. For emotion to be experienced, the second of the two factors is also needed. This factor is cognition, and the role it plays in Schachter's model is that of labeling the general state of arousal. In theory, then,

exactly the same physiological state of arousal could be interpreted in quite different ways and therefore experienced as quite different emotions.

Despite its elegance, this bold prediction made by two-factor theory did not attract enough experimental support for the theory to be able to remain as influential as it was in the 1970s and early 1980s. What has survived relatively unscathed is the proposition that people can misattribute the cause of any felt arousal, with the result that they will tolerate more pain if they are led to believe that at least part of the arousal they experience when exposed to a painful stimulus is due to a drug (in fact a placebo, which means a drug that has no genuine effect, like fake pills) that they have swallowed. Equally, if they are led to think that they have ingested a tranquilizer (again, in fact a placebo, so it has no tranquilizing effect) then any arousal they experience will tend to be overattributed to the most plausible source of arousal. If the most plausible source of the arousal is the fact that they have just written an essay advocating a position that runs contrary to their beliefs, and they are concerned about the effect this essay may have on others, they change their attitudes even more than they would in a no-tranquilizer control condition, apparently because they believe themselves to be experiencing a lot of cognitive dissonance as a result of writing the essay; and the most effective way to reduce the dissonance is to change one's attitude to bring it more into line with the position taken in the essay.

The focus both of Cannon's critique of James and of Schachter's attempt to build a theory that took account of this critique was the state of arousal of the individual's autonomic nervous system. Yet bodily change clearly can involve more than how fast one's heart is beating, how dry one's mouth is, and how much tremor there is in one's hands—all of which are perceptible signs of autonomic nervous system arousal. James's theory was as much concerned with the activity of the voluntary muscles as with visceral changes, as is evident from his assertion that we feel angry because we strike (rather than striking because we feel angry). This aspect of James's theorizing was taken up by researchers interested in the effects of manipulating the feedback individuals receive from their facial or postural musculature. A series of studies has shown, for example, that people tend to find humorous stimuli more amusing if their faces are induced to smile during exposure to these stimuli, that they find painful stimuli more noxious if they are led to adopt more negative facial expressions while

exposed to these stimuli, and that they feel more dejected if they are induced to adopt a stooping posture. Thus modern research has provided support for one feature of James's theory, even if that evidence is more consistent with the view that the perception of bodily change moderates (rather than mediates) the experience of emotion.

Cognition and Emotion

Although cognition was given a central role in Schachter's two-factor theory, that role was distinct from the role it has in appraisal theories of emotion. In Schachter's theory, the role of cognition was to label arousal that was already present. In appraisal theory, the role of cognition is to interpret the significance and meaning of the unfolding emotional event. Imagine that you hear a strange noise coming from your ground-floor kitchen in the middle of the night. The sense you make of this event through a process of appraisal is regarded as determining whether and how you will react emotionally. Interpreting the noise as caused by a human intruder will give rise to a very different set of emotions than will interpreting the noise as caused by your cat or by the wind blowing something off the window sill. Another important factor, in the view of appraisal theorists, is your sense that you will be able to cope with any possible threat to your well-being. A young, physically able person will experience less threat under these circumstances than will an elderly or disabled person. The essence of the appraisal theory view of the role played by appraisal is nicely summarized in Nico Frijda's law of situational meaning, which states that emotions arise from the meanings people ascribe to situations and that if the meaning changes (such that your initial thought that the noise from your kitchen was made by an intruder now changes as you remember that your cat had been outside when you went to bed, and the noise is the sound of her entering the house), so too will be emotion (in this case from fear to relief).

The singular term *appraisal theory* makes it seem as though there is one theory to which all appraisal theorists subscribe. In fact there are several appraisal theories, all of which share the view that emotions arise from cognitive appraisals. Where they differ is with respect to the details of how this common assumption is worked into a full-fledged theoretical position. Some theorists, like Richard Lazarus, emphasize the importance of a relatively small set of core relational themes. These are, in effect, clusters of configured

appraisals that capture the essence of an emotion. Thus, the core relational theme of irrevocable loss is one that holistically defines sadness, whereas the core relational theme of other blame is one that holistically defines anger. The advantage of these core relational themes is that they capture the key relational meaning of a situation and are therefore likely to be predictive of physiological and behavioral changes. Other appraisal theorists, like Frijda, emphasize the readiness for action that appraisals entail. Even if one does not act on these so-called action tendencies, the felt tendency to aggress, to retreat, to freeze, to cry, to laugh, and so on, represents an important element of the experienced emotion. Still other theorists, such as Klaus Scherer, emphasize the importance of the temporal dimension of appraisal. On this view appraisal is a sequential business, starting with rudimentary checks, such as whether the stimulus is novel, pleasant, and expected (in that order), and ending with more complex assessments, such as whether the stimulus conforms to personal or social norms.

There is a wealth of evidence showing that individual emotions are associated with distinct appraisals or patterns of appraisal. There is no doubt, then, that people are able to make connections between emotions and appraisals in much the same way that appraisal theorists propose. Less plentiful is good evidence showing that appraisals are causally linked to emotions. This leaves open the question of whether appraisals are causes, constituents, or even consequences of emotion. This turns out to be a critical issue, because the most sustained attack on appraisal theory, initiated by Robert Zajonc, has argued that affective reactions (in the sense of like, approach, dislike, avoid) often *precede* cognitive reactions (such as beneficial or detrimental to one's goals), and therefore cannot be caused by them. The sheer speed of emotional reactions is an important component of Zajonc's critique, raising doubts about the potential for relatively time-consuming cognitive processes to mediate these reactions. Also important for Zajonc's argument is evidence that people are able to arrive at evaluations of stimuli without being aware of having been exposed to them, as in the mere exposure effect, which again raises questions about the necessity of appraising a stimulus before having an emotional response to it.

A compromise position on the role of cognitive appraisal in emotion is one that recognizes that there is more than one route to an emotional response. Take fear as an example. Modern animal and clinical research shows that there are two distinct ways in which fear can be triggered in the brain, one of which is cortically mediated (thereby implying a role for appraisal), the other of which is mediated by the amygdala (implying a fast response that would be adaptive in predator–prey situations). Note that this subcortical route harks back to one of James's central assumptions, namely, that there is an automatic link between perception and bodily change. The two-routes argument works best for emotions such as fear, which have clear implications for the survival of the individual. It is less plausible to argue for two routes in the case of an emotion such as guilt, for example. Yet here, too, there is debate about the extent to which the appraisal that is assumed by many theorists to be a necessary condition for guilt, namely, perceived responsibility for harm to another, is in fact necessary. Roy Baumeister, for example, has argued that the root cause of guilt is loss of love in a valued relationship and that people who experience this loss of love feel guilty and, as a component or consequence of these guilt feelings, feel responsible for the hurt experienced by the other party to the relationship.

Expression and Emotion

It is obvious that emotions can be expressed in the face and other parts of the body. If someone is intensely angry, sad, afraid, or surprised, others are likely to be able to see signs of the emotion in question in that person's face. The outward expression of inner emotional experience is, of course, of particular interest to social psychologists because it affords others the opportunity to understand how someone is feeling without this person needing to explain the feeling in words. It is sometimes argued that the nonverbal means of communicating emotion are more important and effective than the verbal means. Clearly, this is true of interpersonal communication whereby one or both persons are unable to communicate verbally, because they are prelingual (as in the case of infants) or deaf or simply unable either to speak or to hear each other because of the context (as in a silent Trappist Order or in noisy working environments). It is known that babies are especially interested in faces and that there is a tendency for humans to mimic each other's nonverbal behaviors. People tend to like other people more when others mimic them in this way. To the extent that people do what others do, facially and posturally, and to the extent that feedback from the face and from body posture moderates their emotional experience, it is likely that people come to feel what others are feeling, thereby strengthening understanding of and bonding

with those others. However, all of this depends to an important degree on the extent to which subjective experience of emotion translates into overt expression. It may well be obvious that there are conditions under which this does happen, but it is also obvious that people are capable of appearing to feel one thing when they really feel something else. To avoid giving offense, people pretend to like things that they do not; actors pretend to feel things that they do not so as to produce a convincing portrayal of a character in a particular setting. To what extent is bodily behavior a reliable reflection of someone's emotional state?

Paul Ekman and his colleagues have tested the notion that there is a close relation between emotion and facial behavior, which is what Ekman's notion of a facial affect program, a hardwired system linking experienced emotion to facial behavior, would predict. Their research program employs two kinds of methods. The first is based on Darwin's idea that the ways in which emotions are expressed are universal and therefore independent of culture. To provide more scientific support for this idea than Darwin had been able to muster, Ekman and colleagues took photographs of faces that were recognized by Westerners as clearly expressing certain emotions, and they showed these to persons in a variety of other cultures. The most telling studies are those conducted in preliterate cultures, such as the highlands of Papua New Guinea. What the researchers found was that members of tribes living in these remote cultures, who had had little exposure to Westerners or to Western media images, could match the photographs to short stories of an emotional nature in ways that showed that they broadly understood the emotional meaning of the faces. This is taken as evidence that emotions are expressed facially in the same way across the world: How else could researchers account for the ability of those living in isolated cultures to attribute the same meaning to faces as Westerners do? However, it is important to recognize that these findings relate to a limited set of emotional expressions—happy, sad, angry, afraid, disgusted, and surprised—and that the stimuli used in this type of research are still photos taken at the apex of an extreme, iconic version of an expression. It is also worth noting that although members of remote tribes could match the photos to emotional stories with above-chance accuracy, their performance on average tends to be worse than that of their Western counterparts. Bearing in mind that the expressions they are asked to judge in these studies are of Western faces, this raises the possibility that

people may be better at recognizing emotions in own ethnicity faces than in other ethnicity faces. Recent research suggests that this is the case, pointing to the existence of emotional dialects that are easier for persons who are familiar with the dialect to decode.

The second line of research pursued by Ekman and colleagues has directly examined the extent to which different emotions are accompanied by measurable differences in facial behavior. In this line of work, researchers have made use of the Facial Action Coding System (FACS), a measurement system for coding all visible movement in the human face, which was developed by Ekman in collaboration with Wallace Friesen. This sort of research has shown, for example, that happiness and disgust, as induced by film clips, are associated with different facial actions. This seemingly uncontroversial finding has been the subject of some debate in the literature. Various researchers have used films and other types of stimulus to induce emotional states, surprise being a recent example, and have failed to find that these states are accompanied by the distinct facial actions (brow-raising, eye-widening, jaw-dropping) that would be expected if the notion of a facial affect program were correct. Other researchers have questioned the assumption that there is a close relation between emotion and facial action, arguing instead that facial actions evolved to communicate intentions or motives, not emotions, to conspecifics. This line of argument leads one to predict that facial behavior should vary as a function of how social a situation is, rather than how emotional it is. The debate concerning the closeness and robustness of the relation between emotion and overt behavior is far from settled, but it is evident to most commentators that the strength of the relation is variable. The challenge for future researchers is to identify the factors that moderate this relation.

The Social Life of Emotion

Although much of the research on emotion has a distinctly social psychological flavor, emotion researchers have started to address more explicitly social psychological issues, and social psychologists have started to incorporate emotional concepts and measures into their study of mainstream social psychological issues. Thus, on the one hand, there are emotion researchers who study social or self-conscious emotions, such as shame, guilt, embarrassment, envy, and jealousy—emotions that depend on a real or imagined social context. The importance of this work is that it treats emotion as embedded in a social context and thereby helps to

counterbalance the tacit assumption in much theorizing that emotion is essentially a private experience that arises from socially isolated individuals' assessments of the implications of events for their personal well-being. Also noteworthy in this connection are emotion researchers who study the impact of culture on emotional experience and expression. What this type of research makes clear is that the ways in which cultures promote certain kinds of values (e.g., honor) or self-construals (e.g., the self as an autonomous agent) have an impact on the conditions under which emotions are experienced and communicated.

On the other hand, there are social psychologists who study phenomena such as interpersonal, group, or intergroup relationships and who have found that by taking emotional processes into account they gain a richer understanding of these phenomena. Harmony and discord in close personal relationships can be better understood by examining the quality and quantity of emotional communication in those relationships. Variations in productivity in work groups can be better understood by examining the emotional climates that prevail in these groups. Acceptance or rejection of other social groups can be better understood by taking account of the emotions that are felt toward members of those groups.

Although social psychologists have played a central role in emotion research, it is only relatively recently that emotion has become a central topic of research for social psychologists, but there is every indication that the relationship between emotion and social psychology will be mutually beneficial.

Antony S. R. Manstead

See also Affect; Affect-as-Information; Arousal; Coping; Deception (Lying); Emotional Contagion; Emotional Intelligence; Facial Expression of Emotion; Facial-Feedback Hypothesis; Intergroup Emotions; Mere Exposure Effect; Misattribution of Arousal; Moral Emotions; Nonconscious Emotion; Nonverbal Cues and Communication; Opponent Process Theory of Emotions; Positive Affect; Stress and Coping; Stress-Appraisal Theory (Primary and Secondary Appraisal)

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EMOTIONAL CONTAGION

Definition

Emotional contagion is the phenomenon that individuals tend to express and feel emotions that are similar to those of others. When someone tells you with a big smile that she passed an important test, you smile as well. If, on the other hand, your friend tells you his father passed away last week, you feel depressed, not so much because of the recollection of your friend's father, whom you don't know, but mainly because your friend is so sad. In other words, you do not only observe your friend's emotions, but they also affect your own emotional expressions and emotional state. Thus, emotional contagion is a form of social influence.

Context and Function

Emotional contagion may occur between two persons but also in larger groups. Think of collective rage that spreads among a group of workers when facing their superiors, who argue that the financial cuts are a necessary measure to make the organization healthy again; or the panic that flows through a community, because of a series of crimes committed in the neighborhood; or of the shared sentiments of a crowd moved by a speech of their leader. In all of these cases, emotions are, in large part, elicited because people catch each other's emotions: People are sad, elated, frightened, or

angry because they see others in their immediate surroundings experiencing these emotions.

Why would emotional contagion occur? The most important function of emotional contagion is that it smoothens social interactions and facilitates mutual involvement and emotional closeness, because it helps to synchronize and coordinate the interaction. Communication is simply better when you have the feeling that another person understands your feelings and feels with you rather than when the other person is completely unaware of your emotions. This not only would lead to a better conversation, but it may also improve feelings of intimacy or friendship with the other person. A similar function applies to larger groups where emotional contagion enhances positive feelings between ingroup members (and sometimes negative feelings toward outgroup members) and thus strengthens social bonds.

Explanations and Evidence

Emotional contagion has been described as a multiply determined process, consisting of both automatic processing of others' nonverbal displays as well as more conscious information processing of others' emotional expressions and behavior. To date, most research has been focused on the first aspect of emotional contagion, which has been referred to as *automatic mimicry:* We unconsciously tend to mimic and synchronize our own nonverbal expressions with the nonverbal expressions of other people. Thus, we smile, frown, move, cry, sit, or stand in the same way as others, without necessarily being aware of our copying behavior. The bodily feedback from this mimicry would change our subjective feelings accordingly. In other words, we do not merely smile, or frown, but our smiling or frowning makes us feel happy, or angry, in accordance with these nonverbal displays. Various studies have provided support for automatic mimicry. For example, individuals show more happy and sad faces in response to movie characters or mere photos showing the same expressions; they start yawning or laughing when seeing others yawn or laugh; individuals even imitate others by tapping their feet, stuttering, or expressing pain. It is less clear, however, to what extent persons also feel similar emotions as a result of this mimicry.

In addition to this more automatic mimicking behavior, individuals may try to empathize or identify with another person at a more conscious level, resulting in feeling and expressing similar emotions.

There are different factors that may facilitate emotional contagion. The first factor relates to the *nature of the relationship* between persons, namely, empathy. When individuals love, like, or identify with others or share their goals, they are more likely to catch the other person's emotions. More intimate relationships are therefore characterized more by emotional contagion than are relations between professionals or between strangers. Indeed, it has been shown that dating partners and college roommates became more emotionally similar over a year. This emotional contagion effect applied to both positive and negative emotional reactions to events and could not be explained by increasing similarity in personality variables. In addition, the amount of empathy one may feel with the other person also reflects individual differences: Some individuals are simply better able to empathize than others. Finally, empathy may also occur in less intimate relations. Here, empathy may depend on whether one shares goals or not. For example, the expectation to cooperate with another person leads to more empathy.

Other potential determinants of emotional contagion have hardly been studied empirically. One factor may relate to the nature of the event eliciting the emotions in the first place. We may expect others' emotions to be more contagious when the nature of the eliciting event can be interpreted in different ways. For example, should one feel anxious (or calm) when in a waiting room for a medical test, or should one feel angry (or sad, or happy) at the George W. Bush administration for the war in Iraq? Still another important factor may be the intensity of others' emotional expressions and the nature of these emotions. When expressions are more intense, they may be more contagious; on the other hand, some emotions may be more contagious in nature than other emotions. For example, it is harder not to smile when someone smiles at you than it is not to frown when someone frowns at you.

Implications

Emotional contagion may explain specific group behaviors, as well as the emotional development of interpersonal relations. Most research has focused on automatic mimicry, testing this phenomenon in different contexts and with various nonverbal behaviors. However, the phenomenon is still rather unexplored and needs further examination, in particular with respect to the conditions under which it occurs.

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EMOTIONAL INTELLIGENCE

Emotional intelligence (EI) refers to the processes involved in the recognition, use, understanding, and management of one's own and others' emotional states to solve emotion-laden problems and to regulate behavior. EI, in this tradition, refers to an individual's capacity to reason about emotions and to process emotional information to enhance reasoning. EI is a member of an emerging group of mental abilities alongside social, practical, and personal intelligences.

Research on EI is as an outgrowth of two areas of psychological investigation that emerged toward the end of the 20th century. In the 1980s, psychologists and cognitive scientists began to examine how emotion interacts with thinking and vice versa. For instance, researchers studied how mood states can assist and influence autobiographical memory and personal judgment. At the same time, there was a gradual loosening of the concept of intelligence to include a broad array of mental abilities. Howard Gardner, for instance, advised educators and scientists to place a greater emphasis on the search for multiple intelligences (e.g., interpersonal intelligence, bodily-kinesthetic intelligence). Gardner was primarily interested in helping educators to appreciate students with diverse learning styles and potentials.

The term *emotional intelligence* was introduced to the scientific literature in two articles published in 1990. The first article, by Peter Salovey at Yale University and John (Jack) D. Mayer at the University of New Hampshire, formally defined EI as the ability to monitor one's own and others' feelings and emotions, to discriminate among them, and to use emotion-laden information to guide one's thinking and actions. The second article presented an empirical demonstration of how EI could be tested as a mental ability. This study demonstrated that emotion and cognition could be combined to perform sophisticated information processing. Daniel Goleman popularized the construct in a best-selling 1995 book, *Emotional Intelligence: Why It Can Matter More Than IQ.* EI quickly captured the interest of the media, general public, and researchers. Goleman's claims about the importance of EI went beyond the available data on the construct, however; for example, he claimed that EI was as powerful and at times more powerful than general intelligence in predicting success in life. Goleman's definition of EI also encompassed a broad array of personal attributes, including political awareness, self-confidence, and conscientiousness, among other desirable personality attributes.

In the following years, educators, psychologists, and human resource professionals began to consult and write about EI. Many of these individuals used the term to represent the traits and skills related to character and achieving success in life. However, other researchers have focused the definition of EI on a set of mental skills. They define EI as a set of four abilities pertaining to (a) accurately perceiving and expressing emotion, (b) using emotion to facilitate cognitive activities, (c) understanding emotions, and (d) managing emotions for both emotional and personal growth.

Perceiving emotion refers to the ability to perceive and identify emotions in oneself and others, as well as in other stimuli, including people's voices, stories, music, and works of art. *Using emotion* refers to the ability to harness feelings that assist in certain cognitive enterprises, such as problem solving, decision making, and interpersonal communication, and also leads to focused attention and, possibly, creative thinking. *Understanding emotions* involves knowledge of both emotion-related terms and of the manner in which emotions combine, progress, and transition from one to the other. *Managing emotions* includes the ability to employ strategies that alter feelings and the assessment of the effectiveness of such strategies.

There also are a number of published tests to measure EI. Performance-based tests, such as the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT) for adults and the Mayer-Salovey-Caruso Emotional

Intelligence Test–Youth Version (MSCEIT–YV) for adolescents (ages 12–17), have been developed. These tests are performance-based measures of EI because they require individuals to solve tasks pertaining to each of the four abilities that are part of the theory (i.e., the perception, use, understanding, and management of emotion). For example, to measure the ability to perceive emotion, respondents examine a picture of a person expressing a basic emotion and indicate the extent to which the person is expressing each of five emotions (e.g., happy, sad, fear, anger, and surprise) using a 5-point scale. Each respondent's score is then compared to scores from the normative sample (5,000 individuals) or from a group of emotions experts who have dedicated their careers to studying human emotions.

Evidence is quickly accumulating that EI, measured by the MSCEIT, is related to a wide range of important social behaviors in multiple life domains. For example, individuals with higher MSCEIT scores report better-quality friendships, and dating and married couples with higher MSCEIT scores report more satisfaction and happiness in their relationship. In addition, EI is associated (negatively) with maladaptive lifestyle choices. For example, college students with lower MSCEIT scores report higher levels of drug and alcohol consumption and more deviant acts, including stealing and fighting. Moreover, among college students and adolescents, lower MSCEIT scores are associated with higher levels of anxiety and depression. Finally, EI is associated with a number of important workplace outcomes. For example, business professionals with high EI both see themselves and are viewed by their supervisors as effectively handling stress and creating a more enjoyable work environment.

EI was only introduced to the broader psychological audience about 15 years ago, and performance-based measures of the construct have been used in scientific investigations for about 5 years only. Future research will certainly expand on the theory of EI, and new tasks will be developed to measure the construct. There is much to be learned about EI, and the fate of EI is, in part, in the hands of investigators who will explore the topic in greater detail.

Marc A. Brackett
Peter Salovey

See also Emotion; Self-Monitoring

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EMPATHIC ACCURACY

Definition

Empathic accuracy refers to the degree to which people can accurately infer the specific content of other people's thoughts and feelings. The ability to accurately read other people's thoughts and feelings (everyday mind reading) is a fundamental skill that affects people's adjustment in many different aspects of their lives.

For example, one researcher found that mothers who were more accurate in inferring their child's thoughts and feelings had children with more positive self-concepts. Other researchers have found that young adolescents who were good at reading other people's thoughts and feelings had better peer relationships and fewer personal adjustment problems than those who were poor at reading others. And, with regard to people's dating and marriage relationships, other researchers have found that accurately reading a relationship partner to anticipate a need, avert a conflict, or keep a small problem from escalating into a large one is likely to be healthy and adaptive.

History, Measurement, and Validation

Empathic accuracy is a subarea of interpersonal perception research—a field of study that has had a long

tradition in psychology. As a broad generalization, it can be argued that interpersonal perception research began with the study of accuracy regarding stable and enduring dispositions, such as traits and attitudes, and then gradually turned to the study of accuracy regarding more unstable and transient dispositions such as current thoughts and emotions (feelings).

The study of empathic accuracy emerged in the late 1980s when psychologist William Ickes and his colleagues at the University of Texas at Arlington devised a method for measuring the degree to which research participants could accurately infer the specific content of other people's thoughts and feelings. The essential feature of their method is that a perceiver infers a target person's thoughts or feelings either from a videotaped record of their spontaneous interaction together (the unstructured dyadic interaction paradigm) or from a standard set of the videotaped interactions of multiple target persons (standard stimulus paradigm). In each case, the target persons have previously reported the actual thoughts and feelings they had at specific points during the videotaped interaction, thereby enabling the researchers to compare the perceiver's inferred thoughts and feelings with the target person's actual thoughts and feelings to assess the perceiver's empathic accuracy.

To obtain a measure of empathic accuracy, independent raters make subjective judgments about the similarity between the content of each actual thought or feeling and the content of the corresponding inferred thought or feeling. Then, the number of each perceiver's total accuracy points is divided by the maximum number of possible accuracy points to obtain a percent-correct empathic accuracy measure that can range from 0 to 100.

Across many studies conducted since 1988, this method of measuring empathic accuracy has proved to be both reliable and valid. Raters typically agree with each other in their judgments of how many accuracy points should be assigned to each of the various thought/feeling inferences. In addition, perceivers tend to be quite consistent in how well or how poorly they infer the specific content of different target persons' thoughts and feelings. That is, some perceivers are consistently good at reading others, other perceivers are consistently average, and still other perceivers are consistently poor.

A number of *predictive validity* studies have been conducted to date. One of the first predictions tested was that, if the method for measuring empathic accuracy was indeed valid, close friends should display higher levels of accuracy than strangers when inferring the content of each other's thoughts and feelings. This prediction was confirmed in studies which revealed that, on average, the empathic accuracy scores of close, same-sex friends were about 50% higher than those of same-sex strangers.

The predictive validity of the empathic accuracy measure received further support in a clinically relevant study in which perceivers tried to infer the thoughts and feelings of three female clients who each appeared in a separate videotaped psychotherapy session. The perceivers' empathic scores were significantly greater at the end of the psychotherapy tapes than at the beginning, reflecting their greater acquaintance with the clients and their problems. In addition, perceivers who were randomly assigned to receive immediate feedback about the clients' actual thoughts and feelings during the middle portion of each tape should subsequently achieve better empathic accuracy scores by the end of the tape than perceivers who did not receive such feedback.

Establishing the *convergent validity* of the empathic accuracy measure has proven to be more difficult and complicated. Self-report measures of empathically relevant dispositions generally fail to predict performance on interpersonal accuracy/sensitivity tests, and this conclusion certainly applies to the performance measure of empathic accuracy. Accordingly, researchers have instead concentrated on establishing the predictive validity of the empathic accuracy measure.

Facts and Fictions About Everyday Mind Reading

In studies conducted during the past 2 decades, some beliefs about everyday mind reading have been supported as fact, whereas other beliefs have been exposed as apparently fictional. For example, it now seems reasonable to claim the following as established facts:

Empathic accuracy improves with increasing acquaintanceship.

Empathic accuracy also improves following immediate, veridical feedback about the target person's actual thoughts and feelings.

Perceivers' levels of empathic accuracy tend to be stable across different target persons.

Highly inaccurate perceivers tend to have poorer-quality relationships and more personal adjustment problems than highly accurate perceivers.

On the other hand, there is no consistent support for the following apparently fictional beliefs:

There are empathic superstars who can read other people's minds with perfect accuracy.

Women, in general, have greater empathic ability than men.

Longer-married couples are more accurate in reading each other than are newlywed couples.

Telepathy (ESP or psi) is the basis of our everyday mind reading ability.

Practical Applications

The research on empathic accuracy promises to have many practical applications, including the following:

The screening and selection of potential counselors and therapists, physicians and caregivers, diplomats and negotiators, police and social workers, teachers, and salespersons

Empathy training for people in all of these professions that can be tailored to the specific target group(s) they serve

Empathy training for people with significant empathic deficits, such as abusive men and at-risk children and adolescents

Mutual empathy training for those in various types of distressed relationships.

William Ickes
Marianne Schmid Mast

See also Empathy; Inference

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EMPATHY

Definition

Empathy has many different definitions, some with multiple parts. However, most definitions share the idea of one person's response to his or her perceptions of another person's current experience. Use of the word in English is relatively new, appearing at the beginning of the 20th century, often in discussions of art. Its origins are traced to the German word *Einfühlung,* which translates literally as "feeling into" (as in projecting oneself into something else). Besides generating research within the field of social psychology, the study of empathy has also figured prominently in client-centered psychotherapy.

Much has been made of the distinction between *empathy* and *sympathy,* but the two terms are often used interchangeably. When a distinction is made (particularly in philosophical contexts), empathy is often defined as understanding another person's experience by imagining oneself in that other person's situation: One understands the other person's experience as if it were being experienced by the self, but without the self actually experiencing it. A distinction is maintained between self and other. Sympathy, in contrast, involves the experience of being moved by, or responding in tune with, another person. Another common distinction is to use sympathy when referring specifically to the emotional side of empathy.

Emotional and Cognitive Empathy

Within social psychology, empathy may refer to an emotional or cognitive response—or both. On the emotional side, there are three commonly studied components of empathy. The first is feeling the same emotion as another person (sometimes attributed to emotional contagion, e.g., unconsciously "catching" someone else's tears and feeling sad oneself). The second component, personal distress, refers to one's own feelings of distress in response to perceiving another's plight. This distress may or may not mirror the emotion that the other person is actually feeling. For example, one may feel distress, but not specifically depression, when another person says he or she is so depressed he or she wants to kill himself; similarly, one feels distress, but not actual pain, when one sees someone fall. The third emotional component, feeling compassion for another person, is the one most frequently associated with the study of empathy in psychology. It is often called *empathic concern* and sometimes *sympathy.* Empathic concern is thought to emerge later developmentally and to require more self-control than either emotional contagion or personal distress, although these earlier components (along with the ability to imitate) probably lay the groundwork for later, more sophisticated forms of empathy.

Empathic concern merits special attention for its role in triggering prosocial and helping behaviors. Research consistently finds a positive correlation between how much empathic concern individuals report feeling for another person (or group of people) and their willingness to help those people, even when helping requires some sacrifice (e.g., time, effort, or money). Many of the most noble examples of human behavior, including aiding strangers and stigmatized people, are thought to have empathic roots (although humans are not the only species that helps others in distress). Research on empathic helping has prompted an animated (and perhaps never-to-be-resolved) debate about whether empathic helping is truly altruistic (motivated by an ultimate goal to benefit the other person) or whether it is motivated by selfish rewards, such as reducing one's own distress caused by seeing another person's situation, saving one's kin (and thus some portion of one's genes), or securing public respect or the promise of reciprocal help in the future. Attempts to decide whether the helping behavior is selfless or selfish are complicated by the fact that self-interest and benefits to the other person may overlap.

The other side of empathy, the cognitive side, centers on the ancient philosophical "other minds problem": Our thoughts are ours alone, and we can never directly access the contents of another person's mind. Cognitive empathy refers to the extent to which we perceive or have evidence that we have successfully guessed someone else's thoughts and feelings. The spectrum of cognitive empathy includes very simple tasks such as visual perspective taking (e.g., standing in one's living room and imagining what a person outside can see through the window) and extends up to very complex mental challenges, such as imagining another person's guess about what a third person believes (e.g., "I think Fiona still believes that Seth doesn't know about what happened in Taiwan"). Whereas greater emotional empathy is associated with more intense emotions, greater cognitive empathy (often called *empathic accuracy*) entails having more complete and accurate knowledge about the contents of another person's mind, including how that person feels. Thus, cognitive empathy still requires sensitivity and knowledge about emotions. However, cognitive empathy generally does not include any reference to caring about the other person, thus allowing for the possibility of a kind of Machiavellian cognitive empathy that can be used to harm others (e.g., "know thy enemy"). This concept runs counter to most, if not all, conversational uses of the term *empathy.*

Cognitive empathy is intimately linked to the development of a theory of mind, that is, understanding that someone else's thoughts may differ from one's own. In a typically developing child, a coherent theory of mind emerges between ages 3 and 5 (although rudiments of this skill, such as following another person's gaze to understand what she is looking at, appear earlier). Theory of mind deficits is one major symptom of autism, a psychological disorder that usually appears early in life (other psychological disorders or brain injuries can also produce empathy deficits).

Exactly how people accomplish cognitive empathy has produced some debate. The simulation view postulates that people imagine themselves in the other person's place, a view that meshes nicely with false consensus effects and other egocentric phenomena studied in social psychology. The theory view argues that people develop theories about human thought and behavior that they then use to predict and explain other people's actions, explaining humans' ability to tailor their perspective taking to a particular other person. Successful perspective taking probably frequently requires drawing on both strategies.

Measuring Empathy

A variety of methods have been developed to measure empathy and its various components. Many are self-report measures (i.e., people subjectively rate the extent to which they think they have traits or feelings related to empathy), but researchers have also created innovative and more objective measures, particularly for measuring empathic accuracy and counselors' empathy toward clients in therapy. Physiological measures (e.g., skin conductance, heart rate) and the coding of facial expressions are often used to assess emotional empathy. Most recently, researchers have used brain-imaging techniques to explore the brain areas and pathways that are activated when one is emotionally responding to another person's experience or trying to cognitively represent what that person is experiencing. These techniques have led to hypotheses about mirror neurons. These brain cells (initially found in monkeys) respond the same way when an action is performed by the self and when similar actions are observed being performed by another person (thus, possibly suggesting a neural basis for empathy's most primitive mechanisms).

Outcomes in empathy studies vary depending on which components of empathy are being assessed (e.g., factors that increase empathic concern may not also

affect empathic accuracy). The study of sex differences in empathy provides an example of the complexities of empathy: A prevalent gender stereotype exists that women are more empathic than men. Results consistent with this stereotype have been found when collecting self-report measures of empathic concern, but the pattern is less clear when using more objective measures, and sex differences generally are not found with measures of empathic accuracy except under certain conditions. Furthermore, although evidence has been found for stable empathic traits in people, empathy is perhaps better conceptualized as something that emerges from a complex interaction between (a) characteristics of the target of empathy and that target's situation and (b) the traits, experiences, and motivation of the empathizer, all embedded in a larger cultural context. Subjective perceptions of all of these variables, such as the perceived similarity between the empathizer and the target of empathy, are at least as important as objective reality in determining the experience of empathy.

Sara D. Hodges
Michael W. Myers

See also Altruism; Empathic Accuracy; False Consensus Effect; Projection; Theory of Mind

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Empathy–Altruism Hypothesis

Definition

The empathy–altruism hypothesis states that feelings of empathy for another person produce an altruistic motivation to increase that person's welfare. In the empathy–altruism hypothesis, the term *empathy* refers to feelings of compassion, sympathy, tenderness, and the like. Altruism refers to a motivational state in which the goal is to increase another person's welfare as an end in itself. (Altruistic acts are what are ordinarily called "good deeds.") Note that this definition of *altruism* is different from the typical usage of the term, which is usually defined to mean an act of helping that involves considerable personal costs to the helper. Overall, the empathy–altruism hypothesis has generated a large body of research that answers important questions about why people help and fail to help, and offers insights into the roles played by different types of motives underlying human social behavior.

Background and Importance

The empathy–altruism hypothesis arose out of a long-standing debate in Western philosophy and psychology about whether humans possess the capacity for altruism. For centuries, it was assumed that all human behavior, including the helping of others, is egoistically motivated. The term *egoism* refers to a motivational state in which the goal is to increase one's own welfare as an end in itself. Although there is little doubt that egoism can be a powerful motivator of helping behavior, some researchers have questioned whether all human behavior is motivated by self-interest. Specifically, some have suggested that people may help because they feel empathy for another person's welfare, which may lead to altruism. Those who have argued that empathy may be a source of altruism include naturalist Charles Darwin, philosophers David Hume and Adam Smith, as well as psychologists Herbert Spencer, William McDougall, Martin Hoffman, and Dennis Krebs. Social psychologist C. Daniel Batson formulated the empathy–altruism hypothesis as a revision and extension of the ideas developed by these philosophers and psychologists.

Evidence and Alternative Explanations

The empathy–altruism hypothesis predicts that those feeling high levels of empathy for a person in need will be more likely to help than will those feeling less empathy. This prediction is well supported by research. However, a number of egoistic alternative explanations have been proposed to explain these findings. For example, those feeling high levels of empathy may feel more distress and, consequently, may be more likely to help because they are egoistically motivated

to reduce their own distress. Another possibility is that those feeling high levels of empathy are more likely to help because they are more egoistically motivated to avoid feeling bad about themselves or looking bad in the eyes of others should they fail to help. Similarly, those feeling high levels of empathy may be more likely to help because they are more egoistically motivated to feel good about themselves or to look good in the eyes of others should they help. Determining whether these and other egoistic explanations can explain the high rates of helping among those feeling high levels of empathy has generated much scientific debate and empirical research. With few exceptions, evidence from dozens of experiments over the past 30 years has provided support for the empathy–altruism hypothesis over all the available egoistic explanations and, by extension, for the claim that humans are indeed capable of altruism.

Implications

In addition to investigating the nature of the motivation associated with empathy, researchers studying the empathy–altruism hypothesis have discovered a number of other interesting phenomena. For example, those feeling high levels of empathy tend to experience more negative mood than those feeling low levels of empathy when their attempt to help the person for whom empathy is felt is unsuccessful. These findings suggest that feeling high levels of empathy for others may lead to negative outcomes for those feeling empathy when altruistic goals are unattainable. Other findings show that those feeling high levels of empathy tend to behave unjustly or are willing to harm the welfare of a group to which they belong when such behavior will benefit a person for whom empathy is felt. These findings demonstrate that, at least under certain conditions, altruism can undermine other prosocial objectives, such as maintaining justice or working for the common good.

Although altruism at times may be harmful to those feeling empathy, it does appear to be very beneficial to those individuals for whom empathy is felt. For example, research shows that individuals who feel high levels of empathy will actually avoid helping the person for whom empathy is felt in the short term when doing so promotes the long-term welfare of that individual. These findings suggest that altruistically motivated individuals may be more sensitive to the needs of those for whom empathy is felt compared to individuals who are not altruistically motivated to help. Finally, leading individuals to feel empathy for members of stigmatized or disadvantaged groups appears to produce not only a tendency to help members of those groups, but also promotes positive attitudes toward the groups as a whole. These findings suggest that empathy may be useful for reducing prejudice and discrimination.

The available research offers strong support for the claim that humans are indeed capable of altruism. Even though altruism appears to be beneficial to individuals for whom empathy is felt, it may lead to negative outcomes for the altruistically motivated person in some circumstances. Also, altruism may lead helpers to benefit the person for whom empathy is felt at the expense of others. Although the debate over human altruism may not be completely resolved any time soon, the empathy–altruism hypothesis nonetheless presents an intriguing and complex picture of human motivation worthy of continued scientific attention.

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See also Altruism; Compassion; Empathy; Group Dynamics; Helping Behavior; Intergroup Relations; Prosocial Behavior; Stigma

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ENCODING

Definition

Encoding is the process by which we translate information collected from the outside world by our sensory organs into mental representations. We tend to think of our eyes, ears, and other senses as analogous to video recorders—faithfully translating the outside world into mental products inside our head. However, encoding involves construction of what must be out there in addition to faithful duplication of what is indeed out there. While there are various reasons for this constructive process, the most important reason is

that information from the environment can often be interpreted in multiple ways, and the mind must choose the most likely meaning to enable us to respond appropriately. The mind solves this problem by relying on context to adjust the incoming information so that it conforms to the most likely interpretation of what is being seen, heard, tasted, and so forth.

As an example of this constructive process, think back on a time when someone said something to you that you didn't completely hear. You might have asked the person to repeat the statement, only to realize that you did not need the statement to be repeated. You might have berated yourself for asking for clarification too quickly, thinking that you actually heard the person the first time. In all probability, however, you did not hear the complete sentence when it was first spoken but were able to reconstruct it very rapidly after the fact. You could achieve this later reconstruction because once the entire utterance was complete, you had more information at your disposal to clarify what was originally heard. As a consequence, your mind could now replay it for you properly, without the added noise or confusion that caused you not to hear it the first time.

This example illustrates how constructive encoding can allow us to make sense of a world that might otherwise be too noisy or confusing. Nevertheless, constructive encoding has its pitfalls as well. Because most constructive processes at encoding are unconscious and inaccessible, we are often oblivious to their effects and tend to believe that what we see and hear represents objective reality. In actual fact, people interpret information based on their personal experiences and idiosyncratic understanding of the world. Thus, two people can walk away from the same event and occasionally hear or see different things, particularly if the people come from different cultural backgrounds. Despite these potential costs of constructive encoding processes, it is worth keeping in mind that the goal of encoding is to create a clear and accurate representation of reality, and evidence suggests that people are very good at this process most of the time. Indeed, people can sometimes form reasonably accurate representations of others after viewing just a few seconds of behavior.

William von Hippel
Karen Gonsalkorale

See also Attention; Memory

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Endowment Effect

See Mere Ownership Effect

Entitativity

In his or her social world, a person continually encounters collections of individuals in various social contexts. Sometimes a person perceives these other people to be a meaningful group; other times, as a mere aggregate of persons. What determines when a person sees other people as meaningful groups, and what are the consequences of perceiving people as a tightly knit group versus a loose collection of individuals?

In 1958, Campbell theorized about the nature of groupness, which he called *entitativity.* He proposed that groups could be considered meaningful entities if their members were similar and in close proximity and if they shared common goals and common outcomes. At an intuitive level, it seems obvious that individuals who are similar in some respect (e.g., skin color or nationality), in close proximity (e.g., neighbors), and who share a common fate (e.g., members of a basketball team) would be more likely to be perceived as a meaningful group. Yet empirical support for these ideas was not provided until decades after Campbell's original suppositions.

Although the factors proposed by Campbell seem important for perceiving groupness, there is such a diverse array of groups in one's social world that a more systematic differentiation and understanding of what entitativity means for each group seemed necessary. Research by Lickel and his colleagues in 2000 addressed this issue. Participants in their study rated a variety of different groups on different stimulus cues thought to be related to entitativity. Statistical analyses revealed that the extent to which the members were a meaningful group (entitative) was most closely

related to the extent of interaction among group members, how important group membership was to them, whether the members shared similar goals and outcomes, and the extent of similarity among members.

When participants were asked to sort the groups into as many different categories as they wished, it was found that participants consistently sorted the various groups into four specific types, and each was characterized by a specific pattern of the aforementioned cues. The first group type, *intimacy groups,* consisted of family members and other small groups whose members interacted a lot and are very important to the members. The next type, *task groups,* comprised committees, coworkers, and other smaller interactive groups that exist to get a job done. The third group type, *social categories,* consisted of groups such as gender, racial, and national groups, which are large and whose members are similar but do not have extensive interaction. Finally, *loose associations* are made up of people who go to the same school and other groups that are large in size, easy to join or leave, and typically not as important to their members. In addition to the cues that characterize each group type, Lickel and his colleagues also found that the group types vary in level of perceived entitativity. Intimacy groups are perceived to be highest in entitativity, followed by task groups, social categories, and loose association groups.

As a person maneuvers through his or her social worlds, how might these factors influence the way the person perceives groups? Later research has shown that perceivers *spontaneously* categorize people into these group types and are more likely, for example, to confuse members of a task group (e.g., a jury member) with another task group member (e.g., a coworker) than to confuse a task group member with a social category member (e.g., a Presbyterian). These within-group-type errors occur with each of the group types, suggesting that perceivers organize information about group members based on the type of group to which they belong.

Once a person categorizes people into groups, there are a number of consequences for the way he or she processes information and forms impressions about the groups. Unlike individuals, about whom a person routinely seeks to form meaningful and coherent impressions, group members are generally thought to be less entitative targets. If a person see an individual person acting in a rude way, he or she might assume that the person is rude. In contrast, if a person

sees a member of a group behaving in a rude way, he or she would probably be less likely to assume that the group as a whole comprises rude individuals. Research has shown that perceivers engage in more *integrative processing* when considering individual targets in contrast to group targets. That is, perceivers are more likely to infer dispositional qualities, assume consistent actions over time, and attempt to resolve any inconsistencies in the behavior of individual, in contrast to group, targets.

Yet groups vary in their level of perceived entitativity. If perceivers engage in integrative processing of entitative targets (such as individuals), then the same processing should occur for highly entitative groups. In one representative study, researchers varied the entitativity of individual or group targets and found that participants did engage in more integrative processing for both entitative individual and group targets and less integrative processing for groups and individuals that were described as low in entitativity.

A consequence of engaging in more integrative processing of highly entitative groups is that perceivers will spend more time thinking about information presented by groups that are high, in contrast to low, in entitativity. In fact, research has demonstrated that perceivers are more likely to be persuaded by highly entitative groups than by groups low in entitativity. These results were attributed to an increase in elaboration of strong messages when presented by high entitativity groups. In contrast, less attitude change was found when messages were weak or presented by groups low in entitativity.

Another consequence of integrative processing is that once a person perceives a group to be highly entitative, he or she is more likely to see individual group members as similar to each other and hence as essentially interchangeable. Attributes learned about one group member are assumed to be characteristic of other group members as well. This generalization across group members is important because it is a basis for stereotyping the group. Research has also shown that perceivers make more extreme or polarized judgments about highly entitative targets.

The groups that people encounter in their social world are diverse and ever changing. Yet from this sea of diversity, they perceive meaningful, entitative groups in their midst. Regardless of the type of group, perceptions of entitativity allow people to categorize aggregates of individuals into meaningful units. In this way, they are able to process information more

effectively and to better maneuver through the complex social world in which they live.

<div align="right">

David L. Hamilton

Sara A. Crump

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See also Fundamental Attribution Error; Group Identity; Groups, Characteristics of; Person Perception; Social Categorization

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Environmental Psychology

Why is it so traumatic to be confronted with a burglary in one's own home? Why, in spite of a wide consensus concerning the necessity to protect our environment, do so few people really engage in conservation behaviors? Why, in the same city, are there clean and secure neighborhoods and nearby run-down and dangerous ones? Why do people insist on returning to their destroyed homes after a natural disaster in spite of the dangers? Why is living in cities seen as so stressful? Why are natural environments so restorative? All these questions can be answered only by looking at the relationship the individual has with the environment in which he or she lives; these are the concerns of environmental psychology. It is therefore not surprising that the discipline emerged in the 1970s, as a response to questions about the architectural layout of psychiatric wards and the fit between building design and users' needs.

Definition

There are a number of important defining characteristics of environmental psychology. Environmental psychology deals with the relationships between people and their physical and social settings. Environmental psychology studies individuals and groups in their physical and social context, by giving a prominent place to environmental perceptions, attitudes, evaluations, and representations and accompanying behavior to address the nature and impact of these interrelations. Environmental psychology studies environment–behavior relationships as a unit, rather than separating them into distinct elements. Environmental psychology investigates the psychological processes that facilitate understanding of the meaning that environmental situations have for people acting individually or in groups and how people create and use places. In dealing with the relationship between the individuals and groups and their life-space, environmental psychology considers not only the environment as providing humans with all that they need to survive but also the spaces in which to appreciate, understand, and act to fulfill higher needs and aspirations.

Environmental psychology focuses on both the effects of environmental conditions on behavior and how the individual perceives and acts on the environment. The point of departure of analysis is often the physical characteristics of the environment (e.g., noise, pollution, planning and the layout of physical space) acting directly on the individual or groups or mediated by social variables in the environment (e.g., crowding). But physical and social factors are inextricably linked in their effects on individuals' perceptions and behavior.

Why an Environmental Psychology?

Although environmental psychology can justly claim to be a subdiscipline in its own right, it clearly has an affinity with other branches of psychology such as cognitive, organizational, and developmental psychology. But it is most closely allied to social psychology.

Examples of where environmental psychology has been informed by, and contributed to, social psychology are intergroup relations, group functioning, performance, identity, conflict, and bystander behavior. However, social psychology often minimizes the role of the environment as a physical and social setting, and treats it as simply the stage on which individuals and groups act rather than as an integral part of the plot. Environmental psychology adds an important dimension to social psychology by making sense of differences in behavior and perception according to contextual variables, differences that can be explained only by reference to environmental contingencies. Furthermore, social psychology finds it difficult to explain why there is such a poor relationship between attitudes and behavior. Often it is only by reference to the individual's relationship to the environment that a plausible explanation can be made of the presence or absence of behavior in accordance to one's attitudes: The environment facilitates or impedes certain behaviors, and it is within specific contexts that cognitions, emotions, and behaviors take place and gain meaning. It is hardly surprising that people throw garbage on the streets when there are no waste bins and when all the evidence is that no one cares for the environment.

Since environmental psychologists consider that behavior gains meaning only when it takes place in the natural setting, the discipline mainly functions in an inductive way; that is, it studies people in their real context (e.g., shopping mall, neighborhood, parks, city streets). As a consequence, it is often considered as being applied psychology. Besides using surveys by means of interviews or questionnaires and classic behavioral observations, the discipline also relies on a wide range of specific methods like mental mapping, simulations, commented trailing, and behavioral cartography.

Although there are strong links to other areas of psychology, especially social psychology, environmental psychology is unique among the psychological sciences because of the relationships it has forged with the social (e.g., sociology, human ecology, demography), environmental (e.g., environmental sciences, geography), and design (e.g., architecture, planning, landscape architecture, interior design) disciplines. Environmental psychologists routinely work with architects and planners, environmental scientists, and even professionals such as archaeologists.

What Is the Scope of Environmental Psychology?

Environmental psychology, because of its very focus, has been and remains above all a psychology of space, to the extent that it analyzes individuals' and communities' perceptions, attitudes, and behaviors in explicit relation to the physical and social contexts within which people and communities exist. Notions of space and place occupy a central position. The environment can be our city, office, factory, school, hospital, where we shop or work, where we take our leisure—be it a national park or city park, our neighborhood, home, or even a small and personal space such as our bedroom. The discipline operates, then, at several levels of spatial reference enabling the investigation of people–environment interactions (at the individual, group, or societal level) at each level (see Table 1).

Table 1   Physical and Social Aspects of the Four Levels of Environmental Analyses and Type of Control

	Physical Aspects of the Environment	Social Aspects of the Environment	Type of Space and Control
Level 1	Micro environment (habitat, workplace)	Individual (family)	Private space (extended control)
Level 2	Proximal environment (neighborhood, spaces open to the public)	Communities (users, clients)	Semi-public space (shared control)
Level 3	Public environments (villages, towns, cities)	Inhabitants (aggregates of individuals)	Public space (mediated control)
Level 4	Global environment (natural resources)	Society (population)	Country, nation, planet (lack of control)

Private spaces like the house, the workplace, or the office, which are not shared or shared by a restricted number of people, do not generate the same relations as semi-public or public environments like blocks of apartments, the neighborhood, parks, or green spaces shared with a community. Public environments, involving both built spaces (villages, towns, cities) as well as the natural environment (the countryside, landscape, etc.) involve relations with strangers at the societal level. Furthermore, at each of these levels people do have more or less control over the physical and social aspects of the environment. In the private sphere, the individual's control is absolute; in semi-private and public environments, it is shared with the neighborhood community. In the urban environment, control is delegated to elected or designated organizations, such as the police, the local municipality, and so forth, whereas control over global environmental features may be a matter of international negotiation. Environmental psychology analyzes and characterizes *people–environment interactions and/or transactions* at these different environmental levels. These relations can best be understood through perception, needs, opportunities, and means of control.

One of the shortcomings of so much psychological research is that it treats the environment simply as a value-free backdrop to human activity and a stage on which people act out their lives. In essence, the environment is regarded as noise. It is seen as expedient in psychological investigations and experiments to remove or reduce as much extraneous noise as possible that will affect the purity of the results. This is understandable and desirable in many situations, but when it comes to understanding human perceptions, attitudes, and behaviors in real-world settings, the environment is a critical factor that needs to be taken into account. For example, as it is not possible to understand the architecture and spatial layout of a church, mosque, or synagogue without reference to the liturgical precepts which influenced their design, so it is no less possible to understand any landscape without reference to the different social, economic, and political systems and ideologies which inform them.

Helping behavior is a good example of the influence of environmental context on the interpersonal behavior. The conclusions of numerous research studies undertaken since the 1970s consistently demonstrate that the conditions of urban life reduce the attention given to others and diminish one's willingness to help

others. Aggressive reactions to a phone box out of order are more common in large cities than in small towns. These findings have been explained by the levels of population densities, such as in large urban areas, which engender individualism and an indifference toward others, a malaise noted as long ago as 1903 by the German sociologist Georg Simmel, who suggested that city life is characterized by social withdrawal, egoistic behaviors, detachment, and disinterest toward others. The reduction of attention to others can also be observed when the individual is exposed to a more isolated supplementary stressful condition. Thus, excessive population density or the noise of a pneumatic drill significantly reduces the frequency of different helping behaviors. If politeness, as measured by holding the door for someone at the entry of a large department store, is less frequent in Paris than in a small provincial town, then this would suggest that population density and its immediate impact on the throughput of shoppers will affect helping and politeness behavior.

One World or Many?

People often assume that other people see the environment the same way as they do. However, each person holds a unique view of the place where he or she lives and works because of what it means to him- or herself. Certain places are more meaningful than others: the restaurant in which marriage was proposed, the street where one saw a boy fatally knocked off his bicycle, the office building of one's first job. These are all intensely personal experiences and therefore map uniquely onto each person's perception and image of his or her local environment. Some experiences though are held in common—nobody can look at Ground Zero in New York without thinking of their collective experience of that day in September 2001. Of course, everyone also holds a collective perception and image of the world, but it does not necessarily have equal meaning for everybody—one might cite 9/11 again as an example of this. At a more prosaic level, some areas are attractive, some are run-down, some dangerous at night and others peaceful, some noisy and polluted.

Different groups perceive the environment in different ways for different reasons. There is a growing interest in the contrasting perceptions of different groups such as children, the disabled, the mobility-poor, and women. It is claimed, for example, that by

failing to appreciate how women see the environment, urban planners have not taken into account gender differences, with its consequences for both community planning and social and community life. When such differences occur, conflicts arise. Such conflicts may be because the perceptions and preferences of one group have not been communicated to another and so have not been acted on. Alternatively, conflicts could be due to differences in values between one group and another.

Psychologists have paid some attention to the different perceptions of planners, designers, and managers and users of the environment. For example, a study of wilderness users' and managers' perception of Minnesota's Boundary Waters Canoe Area found that both groups possessed very different perceptions of the spatial extent of the wilderness area, and both sets of perceptions were inaccurate. Canoeists saw the wilderness area larger than it actually was, while the managers saw it as smaller. In another study of the same wilderness area, it was found that managers had positive attitudes toward hunting, beaver trapping, and the use of motorized boats, whereas canoeists objected to these activities on the grounds that they would not only damage the very qualities of wilderness but also tarnish their image of what a pure wilderness is. Some people who visit national parks and other natural areas may be looking for a wilderness experience in which the presence of the hand of humans is not much in evidence. But others may only seek the illusion of naturalness, desiring modern urban comforts while seeming to get away from it all.

Importance of Place

Place is an important concept in environmental psychology. Places not only are important physical referents with which people relate to the physical world but also become part of the way people define themselves. Research on place-identity is concerned with the acquisition, meaning, and loss of people's relationships with places that are psychologically significant to them as individuals and as members of the social groups to which they belong. It has been shown that unwanted and personally uncontrollable change in the physical environment may cause a grief or loss reaction. Such grieving may be long-lasting. The inhabitants of a village in Slovakia who had been forcibly moved in order that the valley in which the village was situated could be flooded for a reservoir were still distressed 40 years after the event. When asked to recall their life and environment through interviews and drawing a map of the village, they were able to recall in fine detail environmental features and who lived where in the village.

When place is destroyed, personal identity is damaged. The construction of the Channel Tunnel linking England with France had a devastating impact on the villages which were destroyed to enable the tunnel entrance and approaches to be built. Although much care was taken to protect environmentally sensitive areas, the psychological effects of the impact of loss of home, community, and countryside on the local inhabitants were given less attention. This harmony between self and the environment can be detected from the inhabitants' remarks, especially those who lost their homes; the most feeling comments about displaced birds and animals came from respondents whose own homes had been demolished.

The psychological effects on people experiencing the gradual destruction of their environment on such a traumatic scale are not well understood, although they are now receiving attention from environmental psychologists.

Policy-Oriented Discipline

Environmental psychology's strongest feature is its capacity to respond to societal problems based on solid scientific knowledge and sophisticated methods. Indeed, environmental psychology has always been an applied and policy-oriented discipline as well as a scientific subject that seeks to understand and explain human behavior in an environmental context. Consequently, it is not surprising to find that the issues at the forefront of the political and environmental agenda at the beginning of the 21st century—human rights, well-being and quality of life, globalization and sustainability—are being addressed by environmental psychologists. A healthy environment is not only an environment that is free of substances that threaten the individual's health, but it is also an environment to which individuals are attached and in which individuals feel themselves at home, indispensable conditions for sustainable citizenship.

Gabriel Moser
David Uzzell

See also Group Performance and Productivity; Intergroup
   Relations

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ENVY

Definition

Envy refers to the often-painful emotion caused by an awareness of an advantage enjoyed by another person. It is a complex, socially repugnant emotion made up of a mix of inferiority feelings, hostility, and resentment. Envy is different from admiration, which is delight and approval inspired by another person. Admiration can foster a desire to emulate another person's success, whereas envy breeds a competitive desire to outdo and even bring the envied person down in some cases. Envy may seem like greed, but greed involves an insatiable desire for more and more of something, rather than a desire for a particular thing possessed by a particular person. Envy is also different from jealousy. Envy involves two people and occurs when one *lacks* something enjoyed by another. Jealousy typically involves three people and occurs when one fears *losing* someone, usually a romantic partner, to a rival. Thus, we say that Cassius envied Caesar's power and prestige, whereas Othello was jealous because Desdemona appeared interested in Cassio.

Whom and What Do People Envy?

Envy is a universal emotion, but it is not the inevitable response to another person's superiority. People envy those who are similar to themselves on attributes such as gender, age, experience, and social background. These similarities enable people to imagine what it would be like if they had the envied person's advantage. However, envy results when, in fact, the chances of having the desired attribute seem slim, despite this similarity. Also, people envy those whose advantages are on self-relevant domains. If Salieri envied Mozart, it was because Salieri's self-worth was linked to doing well as a composer, and Mozart's superior musical talent diminished Salieri's own abilities on a domain that mattered dearly to him.

Hostile Nature of Envy

Advantages enjoyed by other people can have powerful consequences for the self. Other people's superiority grants them better access to culturally valued resources in school, the workplace, and in romantic relationships or, indeed, in any domain where the best outcomes are determined by competition. Therefore, when another person enjoys a relative advantage in an important domain of life, a blend of negative feelings characteristic of envy often naturally follows. A major part of these feelings is hostile because hostility can serve as a necessary spur for self-assertion. In the long run, submissive reactions probably lead to losing out in the game of life.

It is important to recognize the hostile nature of envy. This hostility explains why envy is associated with so many historical cases of aggression (such as the horrific bloodletting between the Tutsi and Hutus in Rwanda), as well as innumerable literary and biblical accounts of murder and sabotage (such as the assassination of Caesar in Shakespeare's play and the slaying of Abel by Cain). Laboratory studies show this link as well. Envy, for example, has been shown to create the conditions ripe for malicious joy, or *Schadenfreude,* if the envied person suffers a misfortune.

Suppression of Envy and Its Transmutations

People resist confessing their envy, perhaps more so than any other emotion. After all, envy is one of the seven deadly sins. People are taught to rejoice in the good fortunes of others. To admit to envy is to announce that one is feeling both inferior and hostile, which is shameful. Envy is also extremely threatening to the self, which means that people often fail to acknowledge it privately as well. Consequently, envy is likely to be suppressed or transmuted into other more socially acceptable emotions, tricking both observers and the self alike. Although the first pangs of the emotion may be recognizable as envy, because of the threat to the self that is inherent in the emotion, people

feeling envy may give it a different label for public and private consumption. They usually find ways to justify their hostility by perceiving the advantage as unfair or the envied person as morally flawed. What begins as envy can then become transformed into indignation and outrage. Over time, even the desired attribute itself may become devalued, as an attitude of sour grapes takes over. Because people feeling envy sense that open hostility violates social norms, they usually avoid acting on their hostility in direct ways. They tend to take the route of backbiting and gossiping and are primed for secret pleasure if misfortune befalls the envied person. Sometimes, their behavior will suggest the opposite of their feelings (such as effusive compliments), so that observers (and perhaps the envying people themselves) will not attribute their actions to envy.

Envy and Unhappiness

Envy is thought to be a potent cause of unhappiness. Part of the reason is that feeling envy means that one is determining self-worth by how one compares with others. This is a likely road to discontent, because for most people, there will always be others who compare better. Ultimately, envy can poison a person's capacity to enjoy the good things in life and snuff out feelings of gratitude for life's many gifts. People who are envious by disposition appear especially likely to perceive an unflattering comparison as showcasing their inferiority and may become especially bitter and resentful. Such tendencies are hardly conducive to happiness and smooth interactions with others. Physical as well as mental health may suffer. Thus, people are well advised to find ways to curtail their envy by focusing on reasons for feeling grateful and, in general, avoiding judging themselves using standards derived from social comparisons.

Richard H. Smith

See also Emotion; Social Comparison

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EQUALITY MATCHING

See RELATIONAL MODELS THEORY

EQUITY THEORY

Definition

Equity theory posits that when it comes to relationships, two concerns stand out: (1) How rewarding are their societal, family, and work relationships? (2) How fair and equitable are those relationships? According to equity theory, people feel most comfortable when they are getting exactly what they deserve from their relationships—no more and certainly no less.

Equity theory consists of four propositions:

Proposition I. Men and women are "wired up" to try to maximize pleasure and minimize pain.

Proposition II. Society, however, has a vested interest in persuading people to behave fairly and equitably. Groups will generally reward members who treat others equitably and punish those who treat others inequitably.

Proposition III. Given societal pressures, people are most comfortable when they perceive that they are getting roughly what they deserve from life and love. If people feel overbenefited, they may experience pity, guilt, and shame; if underbenefited, they may experience anger, sadness, and resentment.

Proposition IV. People in inequitable relationships will attempt to reduce their distress via a variety of techniques: by restoring psychological equity, actual equity, or leaving the relationship.

Context and Importance

People everywhere are concerned with justice. "What's fair is fair!" "She deserves better." "It's just not right." "He can't get away with that: It's illegal." "It's unethical!" "It's immoral." Yet, historically, societies have had very different visions as to what constitutes social justice and fairness. Some dominant views include the following:

- All men are created equal.
- The more you invest in a project, the more profit you deserve to reap (American capitalism).
- Each according to his need (Communism).
- Winner take all (dog-eat-dog capitalism).
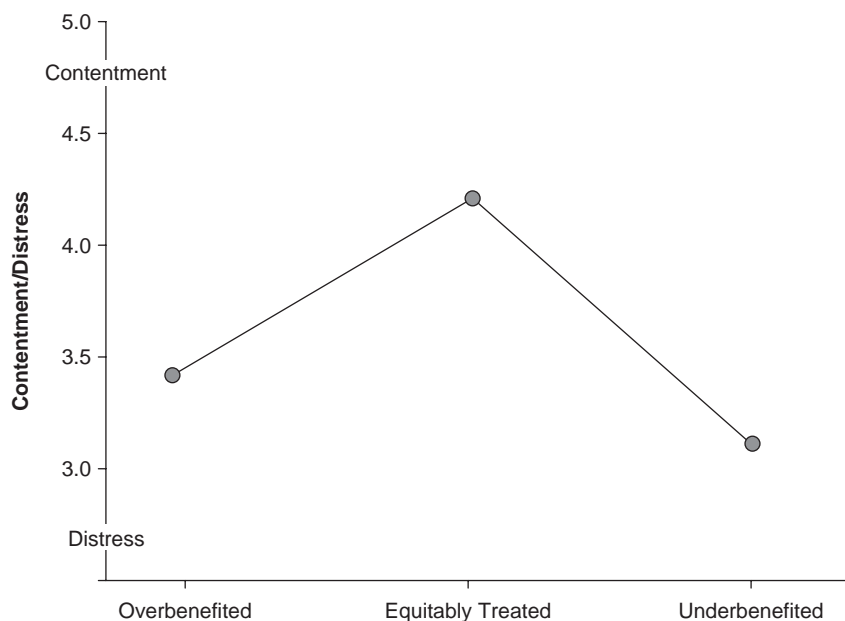
Figure 1   The Impact of Equity on Contentment With the Relationship

Nonetheless, in all societies, fairness and justice are deemed important. This entry will consider the consequences for men and women when they feel fairly or unfairly treated. Although equity has been found to be important in a wide variety of relationships—societal relationships, romantic and family relationships, helping relationships, exploitative relationships, and work relationships—this entry will focus on the research in one area: romantic and marital relationships.

Measuring Equity

Although (technically) equity is defined by a complex formula, in practice, in love relationships, equity has been assessed by a simple measure:

Considering what you put into your (dating relationship) (marriage), compared to what you get out of it . . . and what your partner puts in compared to what he or she gets out of it, how does your (dating relationship) (marriage) "stack up"?

+3: I am getting a much better deal than my partner.

+2: I am getting a somewhat better deal.

+1: I am getting a slightly better deal.

 0: We are both getting an equally good, or bad, deal.

–1: My partner is getting a slightly better deal.

–2: My partner is getting a somewhat better deal.

–3: My partner is getting a much better deal than I am.

On the basis of their answers, persons can be classified as overbenefited (receiving more than they deserve), equitably treated, or underbenefited (receiving less than they deserve).

Equity in Love Relationships: The Research

There is considerable evidence that in love relationships, equity matters. Specifically, researchers find that the more socially desirable people are (the more attractive, personable, famous, rich, or considerate they are), the more socially desirable they will expect a mate to be. Also, dating couples are more likely to fall in love if they perceive their relationships to be equitable. Couples are likely to end up with someone fairly close to themselves in social desirability. They are also likely to be matched on the basis of self-esteem, looks, intelligence, education, mental and physical health (or disability). In addition, couples who perceive their relationships to be equitable are more likely to get involved sexually. For example,

couples were asked how intimate their relationships were—whether they involved necking, petting, genital play, intercourse, cunnilingus, or fellatio. Couples in equitable relationships generally were having sexual relations. Couples in inequitable relationships tended to stop before going all the way. Couples were also asked why they'd made love. Those in equitable affairs were most likely to say that both of them wanted to have sex. Couples in inequitable relationships were less likely to claim that sex had been a mutual decision. Dating and married couples in equitable relationships also had more satisfying sexual lives than their peers. Equitable relationships are comfortable relationships. Researchers have interviewed dating couples, newlyweds, couples married for various lengths of time, including couples married 50+ years. Equitable relationships were found to be happier, most contented, and most comfortable at all ages and all stages of a relationship.

Equitable relationships are also stable relationships. Couples who feel equitably treated are most confident that they will still be together in 1 year, 5 years, and 10 years. In equitable relationships, partners are generally motivated to be faithful. The more cheated men and women feel in their marriages, the more likely they are to risk engaging in fleeting extramarital love affairs. Thus, people care about how rewarding their relationships are and how fair and equitable they seem to be.

Implications

Cross-cultural and historical researchers have long been interested in the impact of culture on perceptions of social justice. They contend that culture exerts a profound impact on how concerned men and women are with fairness and equity and on how *fairness* is defined, especially in the realm of gender relationships.

Cultural and historical perspectives suggest several questions for researchers interested in social justice: What aspects of justice, love, sex, and intimacy are universal? Which are social constructions? In the wake of globalization, is the world becoming one and homogeneous, or are traditional cultural practices more tenacious and impervious to deep transformation than some have supposed?

Theorists are also engaged in a debate as to whether certain visions of social justice, (especially in romantic and marital relationships) are better than others. Some cultural theorists argue that all visions are relative and that social psychologists must avoid cultural arrogance

and ethnocentrism and strive to respect cultural variety. Others insist that universal human rights do exist and that certain practices are abhorrent, whatever their cultural sources. These include genocide (ethnic cleansing), torture, and in the area of gender and family relationships, the sale of brides, the forcing of girls into prostitution, dowry murders, *suttee* or widow burning, genital mutilation, infanticide, and discriminatory laws against women's civic, social, and legal equality, just to name just a few. In this world, in which the yearning for modernity and globalization contend with yearnings for cultural traditions, this debate over what is meant by equity and social justice is likely to continue and to be a lively one.

Elaine Hatfield
Richard L. Rapson

See also Distributive Justice; Love; Marital Satisfaction; Social Justice Orientation

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EROTIC PLASTICITY

Definition

Erotic plasticity refers to the degree to which the sex drive is shaped by social, cultural, and situational factors. The sex drive refers to the motivation (desire) to have sex. High plasticity indicates that the person's sexual desires are strongly influenced by social and cultural factors (including meaningful aspects of the immediate situation), and it can be reflected in changes in behavior and in feelings. Thus, someone with high plasticity might potentially learn to desire and enjoy different kinds of sexual activities and different kinds of partners. The intensity of sexual desire might also be subject to external influence.

The term *plasticity* is used in the biological sense, meaning subject to change and able to be molded into different shapes. The other meaning of plasticity, as in

being phony or artificial, is not relevant to erotic plasticity and is in no way implied.

Context and Importance

Erotic plasticity lies at the center of one of the most far-reaching and fundamental debates in the study of human sexuality, namely, the relative influence of nature versus culture. Theory and research in sexuality in recent decades have clustered around two very different views. One is that biological factors such as evolution and genetics are centrally important in determining the sexual feelings and actions of individuals. The other view emphasizes cultural and social factors, such as socialization, political influences, and local norms. For example, theories of homosexuality have ranged from claiming there is a "gay gene," which signifies a biological, innate tendency to become homosexual, to attempts to explain homosexuality in terms of personal experiences, such as growing up with an intrusive, controlling mother and a distant, critical father.

Low plasticity signifies that nature and biology are the main factors; high plasticity indicates a greater scope for culture and other social factors. Differences in plasticity also indicate differences in the type of causality. Biological factors such as genes influence sexual behavior by virtue of physical and biochemical processes, such as how different molecules would create tendencies to act in particular ways. In contrast, social and cultural factors depend on meaning, in the sense of how the person interprets and understands events. A great many animals engage in sexual behavior that is essentially and primarily driven by biological factors, such as hormones and genetic tendencies. Human beings are the only species for whom sex depends partly on what it means and who recognize a distinction between meaningful and meaningless sex. High plasticity indicates that sexual responses depend on meaning. Conversely, a sexual response that is mainly guided by hormones and genes would be lower in plasticity.

Gender

There is ample evidence that women have higher erotic plasticity than men. This is not necessarily either a good or a bad thing, but it may be helpful in understanding sexual differences between men and women.

The reason for women's greater plasticity is not known. One view is that it derives from lesser drive strength. That is, to the extent that women's sexual desires are milder than men's, they may be more amenable to the civilizing and transforming influence of social and cultural factors.

Evidence

Three broad types of evidence have been used in discussing erotic plasticity, though more research tools (including a trait measure to sort individuals as to their degree of plasticity) may be developed soon.

First, high plasticity suggests that individuals will change more in their sexual feelings and behaviors as they move through different circumstances and different life stages. Thus, women are more likely than men to adopt new sexual practices throughout their adult lives (indeed, many men's sexual tastes seem to be set at puberty). Women make more sexual changes in adjusting to marriage than do men. Sexual orientation is of particular importance: Nearly all studies indicate that lesbians have had more opposite-sex partners than have gay males, and heterosexual women are more likely to experiment with homosexual activity than are heterosexual men.

Second, high plasticity indicates being more affected by social and cultural factors, and so one can look at how much these factors change the individual. Highly educated women have sex lives that differ from those of poorly educated women, whereas the influence of education on male sexuality is considerably smaller. Degree of religious involvement predicts very different patterns of sexual behavior for women but much less for men. Girls and women are more influenced by their peer group and by their parents than are men, at least relative to sex. Meanwhile, the role of genetic factors (low plasticity) is generally found to be greater among men than women.

Third, to the extent that sexual responses depend on social and situational influences, general attitudes will show a weak relation to specific behaviors. For example, some studies have asked people whether they find the idea of homosexual sex appealing (a broad attitude) and whether they have actually engaged in any such activity in the past year (specific behavior). For men, those answers are closely related and quite consistent, such that the men who find the idea appealing try it out, and those who do not like the idea do not

perform the acts. For women, however, there is much more inconsistency between the general idea and specific behavior, possibly because the woman's response depends on very specific circumstances (such as the other person and the setting) rather than on the general attitude.

Implications

In sex, the balance between nature and nurture may differ by gender. Women's sexuality probably depends on what it means, on learning and culture, and on other social factors, whereas male sexuality may be more strictly programmed as a biological reaction and hence may resist social and cultural influences. Sexual self-knowledge may be more difficult for women to achieve (because high plasticity keeps open the possibility of change). Women may change more easily in response to circumstances.

Roy F. Baumeister

See also Sex Drive; Sexual Economics Theory

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ERROR MANAGEMENT THEORY

Definition

One of the great challenges for humans is figuring out what is going on in other people's minds. People don't always disclose exactly what they are thinking, they can behave in very ambiguous ways, and sometimes they can be downright deceptive. For example, when a woman smiles at a man, is she sexually interested in him or just being nice?

Sometimes the errors people make in judging others are systematic, meaning that they tend to be biased in one direction or another. For example, judgments might be systematically biased toward a false positive error or a false negative error. In judging others, you would make a false positive error if you believed that a person had a particular thought or intention when the person actually did not. If you judged that the woman was sexually interested in the man, for instance, when she actually was not, you would make a false positive error. On the other hand, you would make a false negative error if you believed that a person did not have a particular thought or intention when the person actually did. If you judged that the woman was not sexually interested in the man when she actually was, you would make a false negative error.

Error management theory proposes that the direction of a bias in social judgment is tied to how costly different kinds of errors are. For example, consider how smoke alarms are designed. Failures to detect fires (false negative errors) are extremely costly, whereas false alarms (false positives) are usually just inconvenient. So, when engineers make smoke alarms, they tend to design them to be biased away from the more costly false negative error by setting a low threshold for fire detection. As a consequence, smoke alarms will tend to be systematically biased toward false positive errors (false alarms). A low threshold for fire detection will cause smoke alarms to make more errors overall, but it will minimize the cost of errors when they inevitably occur (i.e., the errors will tend to be false alarms rather than missed fires).

Error management theory proposes that the same principle of design applies to the evolution of judgment mechanisms in the human mind. Ancestrally, in many areas of social judgment, the costs of false positive and false negative errors differed. When the costs of false negatives are greater, error management theory predicts a bias toward false positives (as in the smoke alarm example); when the costs of false positives are greater, error management theory predicts a bias toward false negatives.

Examples and Evidence

One example of a false positive bias is in men's estimations of women's sexual interest. For an ancestral man, failing to detect sexual interest in a woman resulted in a missed reproductive opportunity, which was highly costly to his reproductive success. The opposite error (believing that a woman was interested when she was not) was perhaps a bit embarrassing but probably less costly overall. Thus, error management theory predicts that natural selection designed a bias in men toward slightly overestimating a woman's sexual

interest to reduce the likelihood of a missed sexual opportunity; this leads modern men to overpercieve women's sexual interest. (The same prediction does not apply to women's perceptions because women need to invest very heavily in each offspring and because reproductive opportunities tend to be easier for women to acquire.) Evidence of this bias has been gathered in many types of studies. In laboratory studies of interactions between male and female strangers, men viewing the interaction tend to infer greater flirtatiousness in the female than do women viewing the interaction. In surveys of people's past experiences, women report more cases in which men overestimated their sexual interest than in which men underestimated it, whereas men's reports of women's over- and underestimation errors do not differ. When men and women are shown romantic movies, men's subsequent tendency to see sexual interest in photographs of neutral female faces is greater than women's.

An example of a false negative bias is in women's judgments of men's interest in commitment during courtship. Women must invest heavily in each offspring produced, and therefore they tend to be very careful in choosing mates and in consenting to sex. One feature women prefer in mates is investment: a man's ability and willingness to invest time and resources in caring for a woman and her offspring. However, women must predict a man's tendency to invest from his behaviors, and therefore their judgments will be susceptible to some degree of error. Here again, there is an asymmetry in the costs of the errors in the judgment task. Judging that a man will commit and invest when he actually will not (a false positive error) could result in the woman consenting to sex and being subsequently abandoned. In harsh ancestral environments, this literally could have been deadly to the woman's offspring. The opposite error—believing that the man is not committed when he actually is (a false negative)—would typically result only in a delay of reproduction for the woman, which would tend to be less costly. Error management theory therefore predicts that women will tend to be skeptical of men's commitment, especially during the early phases of courtship. This prediction has been tested by comparing men's and women's impressions of male courtship behaviors. Relative to men, women express skepticism about a variety of male courtship tactics, including buying flowers, cooking a gourmet dinner, and saying, "I love you."

These two examples concern judgments in courtship, but the odds that the costs of the two error types are identical for any particular area of judgment are essentially zero, and therefore error management theory applies to a broad array of judgment tasks. Other biases that may be explained by error management theory include the following:

The tendency for people to overestimate the dangerousness of unfamiliar others

The tendency for people to infer that they will be caught if they attempt to cheat in certain types of social interactions, even when they know that their identity is concealed from others

The tendency for people to avoid close contact with noncontagious sick, injured, or unfamiliar others who actually pose little risk

The tendency for people to have certain positive illusions that cause them to strive to attain goals that are in fact very difficult to attain, but if they are attained lead to substantial benefits

Implications and Importance

Psychologists often debate whether humans are rational or irrational. Those arguing that humans are irrational cite evidence of bias and errors in human judgment. Error management theory suggests that judgment strategies biased toward less costly errors are expected to evolve and are actually superior to unbiased strategies. Therefore, mere evidence of bias is not necessarily evidence of irrationality or poor judgment, as is often claimed.

There are practical implications of understanding error management biases. The Safeway supermarket chain made news in the 1990s because of their service-with-a-smile policy, which required all employees to smile and make eye contact with customers. The female employees in the chain filed complaints about this policy because they found that men tended to misinterpret their friendliness as sexual interest, leading to instances of sexual harassment. Knowledge of error management biases and the cues that trigger them may help to create better social policies.

Martie G. Haselton

See also Evolutionary Psychology; Heuristic Processing; Positive Illusions; Sexual Strategies Theory

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ESCAPE THEORY

Definition

Escape theory refers to the tendency for people to engage in behaviors to avoid an unpleasant psychological reaction. Whereas the common use of the term *escape* suggests physically removing oneself from a physical location (such as escaping from prison), escape theory is used to describe behaviors that enable a person to flee from negative perceptions of the self. Escape from the self may help a person temporarily avoid a negative psychological reaction, but the behaviors that follow from a motivation to escape from the self are frequently undesirable.

History and Background

Social psychology has a long history of examining the consequences of how people view themselves for their behavior. People construct and interpret meaning based on how well their identity falls short of, meets, or exceeds expectations that people set for themselves or that are supported by social norms. Escape theory is concerned primarily with the behaviors that follow when people recognize that some part of their identity falls short of desired standards. When people realize that a part of their identity fails to meet desired standards, they narrow the focus of their attention to the present and immediate environment to avoid meaningful thought regarding unflattering aspects of themselves.

Over the past several decades, social psychologists have demonstrated that people construct and interpret meaning at both high and low levels. High levels of meaning involve comparison of one's self against broad personal or social standards, such as how a current behavior might relate to an event that might occur in the future. Low levels of meaning, in contrast, involve a narrow, concrete awareness of the immediate present. Studying for an exam, for example, can be explained as fulfilling a long-term goal of achieving academic and career success (high level of meaning). At a low level of meaning, studying for an exam could be explained as simple eye and muscle movements. Charles Carver and Michael Scheier proposed that people shift their level of awareness to a low level of meaning when they are confronted with parts of their identity that fail to meet socially approved standards. Other research has shown that people prefer a low level of awareness after experiencing failure or stress. Thus, past theory and research have shown that people seek to escape from the self when one or more aspects of their identity fall short of expectations.

Six Main Steps in Escape Theory

Escape theory is organized in six main steps. First, the person has a severe experience in which he or she realizes that current outcomes (or circumstances) fall below societal or self-imposed standards. Second, the person blames these disappointing outcomes on internal aspects of the self (i.e., parts of his or her personality) as opposed to situational factors. Third, the person recognizes that current outcomes portray the self as inadequate, incompetent, unattractive, or guilty. Fourth, the person experiences negative emotions as a result of the realization that current outcomes fall short of desired expectations. Fifth, the person seeks to escape from this negative psychological reaction by avoiding high-level, meaningful thought. Sixth, the consequences of this avoidance of meaningful thought results in a lack of restraint, which may give rise to undesirable behaviors.

The steps in escape theory signify points in a causal process that are dependent on each other. The causal process will lead to undesirable behaviors only if the person proceeds through each of the previous five steps. If the person explains a recent failure as caused by situational factors (as opposed to blaming it on deficient aspects of the self), then the process will not lead to undesirable behaviors. Escape from the self should therefore be considered a relatively uncommon response to distressing or disappointing outcomes or circumstances.

Applying Escape Theory to Behavioral Outcomes

Escape theory has been applied to several behavioral outcomes. Nearly all of these behaviors produce

immediate relief but also involve long-term negative consequences. Suicide attempts can be considered as attempts to escape from the self. Roy Baumeister showed that many suicide attempts are the result of a shift to a low level of meaning (i.e., focus on immediate environment) to avoid the negative emotions that result from not achieving a desired goal. Escape theory has also been applied to sexual masochism, or the tendency to derive sexual satisfaction from being physically or emotionally abused. People who engage in sexually masochistic behaviors often do so out of a motivation to narrow their attention to immediate, intense sensations, thereby making the likelihood of maintaining a normal sense of identity impossible. Alcohol use may also serve the function of allowing people to escape from negative thoughts about one's self by reducing the ability for people to process complex information in a high-level, meaningful manner. Instead, alcohol use typically renders people incapable of considering how their current outcomes compare to societal and self-imposed standards for desirable behavior. Other research has suggested that cigarette smoking may be understood as goal-directed behavior aimed at achieving a low level of distraction from negative thoughts about one's self.

Todd Heatherton and Baumeister have applied escape theory to binge eating. First, a person may realize that he or she is not meeting a self-imposed weight loss goal. Second, a person may explain his or her failure to lose weight as the result of being an incompetent person instead of focusing on how factors in the environment prevented him or her from losing weight. Third, the person may become intensely aware that his or her failure to lose weight reflects negatively on his or her identity of being a competent and attractive person. Fourth, the person experiences negative emotions after realizing that his or her current body weight does not meet his or her desired body weight. Fifth, the person shifts his or her level of awareness to a low level (i.e., focuses on sensations and objects in the current environment) to escape the negative psychological reaction that resulted from realizing that he or she did not meet a desired weight loss goal. Sixth, the focus on the immediate aspects of the current environment reduces the tendency for the person to consider the long-term consequences of his or her behavior. This lack of restraint increases the tendency for people to engage in typically undesirable behaviors, such as binge eating.

C. Nathan DeWall

See also Coping; Self; Self-Deception; Self-Discrepancy Theory

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ETHNOCENTRISM

Definition

Ethnocentrism is the tendency to view the world through the lens of one's own culture. That is, individuals tend to judge others' behaviors, customs, beliefs, and attitudes by their own cultural standards. The phenomenon of ethnocentrism is believed to occur largely because individuals have the greatest awareness and information about their own culture, which erroneously leads them to believe that the norms, standards, and values within their own culture are universally adopted. Ethnocentrism is a general phenomenon that occurs for individuals across most cultures and societies, although the extent to which it occurs may vary.

Background and Research

In 1906, William Graham Sumner, a professor of political and social science at Yale University, first coined the term *ethnocentrism*. Sumner defined it as the tendency to believe that one's society or culture is the center of all others and is the basis for judging other groups. Moreover, Sumner argued ethnocentrism is the tendency to believe that one's own society or culture is superior to other groups.

Since Sumner's original definition, early psychological researchers continued to define ethnocentrism similarly. In the 1950s, for instance, T. W. Adorno and his colleagues devised an ethnocentrism subscale that was a component of the larger authoritarianism construct. These researchers believed that ethnocentrism comprises both ingroup favoritism and a denigration of outgroups. Evidence for Sumner's conception of ethnocentrism comes from research that demonstrated an inverse relation between ingroup attitudes and outgroup attitudes. This research supported the idea that individuals that have a high opinion of one's own group also correspond to negativity toward outgroups. In addition, such research showed the generalizability

of negative opinions toward outgroups; that is, individuals who have negative attitudes toward one group also tend to have negative attitudes toward other groups. Thus, this early perspective equated ethnocentrism with ethnic prejudice, racism, or both.

More recently, researchers have tended to define ethnocentrism more broadly; for instance, they propose that individuals use their own cultures to judge other outgroups, but they do not necessarily have to have negative evaluations of these outgroups. For example, Marilyn Brewer and her colleagues found that individuals can hold simultaneously positive attitudes toward their own group and outgroups even when they differ on some value, attitude, or behavior. This finding has been confirmed in multiple cultural groups including those in Africa, New Guinea, North America, and Asia. Additional research on ethnocentrism has revealed that correlations between ingroup and outgroup attitudes are not always negative; rather, they vary widely. Lastly, research demonstrates that under conditions of intergroup competition, conflict, or threat, individuals may be more likely to have increased ingroup identification and outgroup hostility. As a whole, then, ethnocentrism is not necessarily equated with ethnic prejudice and racism; instead, it is the tendency to use one's group or culture as a reference in judging other groups, with this judgment resulting in negative, indifferent, or positive evaluation.

Michelle R. Hebl
Juan M. Madera

See also Authoritarian Personality; Culture; Ingroup–Outgroup Bias; Prejudice

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ETHOLOGY

Definition

Ethology is the study of the biological bases of behavior. This subdiscipline of the behavioral sciences uses methods of objective observation, detailed analysis, and experimentation to define the processes underlying the development, function, causative mechanisms, and evolution of behavior patterns. Originally, ethology focused on behavior patterns thought to require little or no learning for their expression. Gradually, however, as knowledge of the developmental influences underlying the expression of various behavior patterns emerged, a realization that individual experience plays an important role in the expression of species-specific behavioral patterns has come to be accepted.

History and Modern Usage

Charles Darwin promoted the idea that humans and animals shared certain behavioral traits, an idea that was important in establishing the approach to comparative studies of behavior. Oskar Heinroth, studying ducks, and Charles Whitman, studying domestic pigeons, noted the similarities of certain behavior patterns used in courtship and deduced that these patterns were as typical of a species or race as morphological characteristics (i.e., the way they look physically). Thus arose the concept that behavior could be a heritable trait and, as genetic mechanisms became increasingly understood, that natural selection could exert its influence on behavior for survival, as it could on any other adaptation. Ethologists have long been interested in creating models of the nervous system that would explain how species-specific behavior patterns were expressed. Communicative behavior was of particular interest; hence, the mechanisms that imparted to others the ability to correctly interpret and respond to specific patterns of behavior also was of great interest. Several concepts arose out of this line of research and conceptual thinking.

The fixed action pattern was proposed by Konrad Lorenz to characterize a highly stereotyped behavior pattern that was a response to specific stimuli (*releasers*) from conspecifics. Nikolaas Tinbergen refined the releaser concept to apply to specific components of a communicative behavior (including the body parts involved in its expression), such as the red spot on a gull's bill that activated feeding behavior on the part of a chick. Some communicative gestures were found to consist of complicated interactions between signaler and receiver, such as the "dance" of honey bees studied by Karl von Frisch and others. The explosion of behavioral studies arising out of these conceptual analyses and detailed behavioral studies were recognized by the

awarding of the Nobel Prize in physiology and medicine to Lorenz, Tinbergen, and von Frisch in 1973. Over the past 50 years or so, ethology has become difficult to segregate from sister disciplines, including neuroethology (studying the neural bases of species-specific behavior), behavioral endocrinology (studying the hormonal basis of species-specific behavior), and behavioral ecology (including the factors that promote group organization in a variety of species, including humans). Integration of the approaches and concepts of ethology with those of psychology has led to the emergence of exciting and very productive disciplines of behavioral biology and behavioral neuroscience, as well as innovative approaches to studying and understanding behavioral pathology.

John D. Newman

See also Evolutionary Psychology; Sociobiology

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EVOLUTIONARY PSYCHOLOGY

Definition

Evolutionary psychology is the study of behavior, thought, and feeling as viewed through the lens of evolutionary biology. Evolutionary psychologists presume all human behaviors reflect the influence of physical and psychological predispositions that helped human ancestors survive and reproduce. On the evolutionary view, any animal's brain and body are composed of mechanisms designed to work together to facilitate success within the environments that were commonly encountered by that animal's ancestors. Thus, a killer whale, though distantly related to a cow, would not do well with a cow's brain, since the killer whale needs a brain designed to control a body that tracks prey in the ocean rather than eating grass in a meadow. Likewise, a bat, though also a mammal, needs a brain designed to run a tiny body that flies around catching insects at high speeds in the dark. Evolutionary psychologists ask: What are the implications of human evolutionary history (e.g., living in omnivorous and hierarchical primate groups populated by kin) for the design of the human mind?

History and Background

Charles Darwin himself deserves the title of first evolutionary psychologist. In 1873, he argued that human emotional expressions likely evolved in the same way as physical features (such as opposable thumbs and upright posture). Darwin presumed emotional expressions served the very useful function of communicating with other members of one's own species. An angry facial expression signals a willingness to fight but leaves the observer an option to back off without either animal being hurt. Darwin's view had a profound influence on the early development of psychology. In 1890, William James's classic text *Principles of Psychology* used the term *evolutionary psychology,* and James argued that many human behaviors reflect the operation of instincts (inherited predispositions to respond to certain stimuli in adaptive ways). A prototypical instinct for James was a sneeze, the predisposition to respond with a rapid blast of air to clear away a nasal irritant. In 1908, William McDougall adopted this perspective in his classic textbook *Social Psychology.* McDougall also believed many important social behaviors were motivated by instincts, but he viewed instincts as complex programs in which particular stimuli (e.g., social obstacles) lead to particular emotional states (e.g., anger) that in turn increase the likelihood of particular behaviors (e.g., aggression).

McDougall's view of social behavior as instinct-driven lost popularity during the mid-20th century, as behaviorism dominated the field. According to the behaviorist view championed by John Watson (who publicly debated McDougall), the mind was mainly a blank slate, and behaviors were determined almost entirely by experiences after birth. Twentieth-century anthropology also contributed to the blank slate viewpoint. Anthropologists reported vastly different social norms in other cultures, and many social scientists made the logical error of presuming that wide cross-cultural variation must mean no constraints on human nature.

The blank slate viewpoint began to unravel in the face of numerous empirical findings in the second half of the 20th century. A more careful look at cross-cultural research revealed evidence of universal preferences and biases across the human species. For example, men the world over are attracted to women who are in the years of peak fertility, whereas women most commonly prefer men who can provide resources (which often translates into older males). As another example, males in more than 90% of other mammalian

species contribute no resources to the offspring, yet all human cultures have long-term cooperative relationships between fathers and mothers, in which the males contribute to offspring. Looked at from an even broader comparative perspective, these general human behavior patterns reflect powerful principles that apply widely across the animal kingdom. For example, investment by fathers is more likely to be found in altricial species (those with helpless offspring, such as birds and humans) than in precocial species (whose young are mobile at birth, such as goats and many other mammals).

Modern Evolutionary Psychology

Modern evolutionary psychology is a synthesis of developments in several different fields, including ethology, cognitive psychology, evolutionary biology, anthropology, and social psychology. At the base of evolutionary psychology is Darwin's theory of evolution by natural selection. Darwin's theory made it clear how an animal's physical features can be shaped by the demands of recurrent problems posed by the environment. Seals are more closely related to dogs than to dolphins, but seals and dolphins share several physical features shaped by common problems of aquatic life (where fins and streamlined body shape assist in catching one's dinner and reduce the chance of becoming dinner for an aquatic predator). Besides overt physical features designed by natural selection, animals also inherit central nervous systems designed to generate the behaviors needed to run those bodies. The behavioral inclinations of a bat would not work well in the body of a dolphin or a giraffe, and vice versa.

Zoologists and comparative psychologists have uncovered many behavioral and psychological mechanisms peculiarly suited to the demands of particular species. For example, dogs use smell for hunting; consequently, they have many more olfactory receptors than humans and are thousands of times more sensitive to various odors. Humans, on the other hand, can see in color, whereas dogs cannot (color vision may be useful for detecting ripe fruit, something humans eat but canines don't). Bats have echolocation capacities allowing them to create the mental equivalent of a sonogram of the night world through which they must navigate at rapid speeds, searching for foods that include rapidly flying insects.

In addition to differences in sensory and perceptual capacities, natural selection has favored many open-ended learning and memory biases designed to fit the ecological demands confronted by each species. For example, rats have poor vision and rely on taste and smell to find food at night. Consequently, they easily condition taste aversions to novel flavors but not to visual stimuli. Quail, on the other hand, have excellent vision and rely on visual cues in food choice, and they show the opposite learning bias—conditioning nausea more readily to visual cues than to tastes or smells.

Domain-Specific Mechanisms

Evolutionarily informed research has suggested that brains are composed of a number of specialized domain-specific mechanisms. For example, birds use different memory systems and different rules for remembering species song, the taste of poisonous food, and locations of food caches. Many birds learn to sing the song of their species during a brief critical period early in life and then reproduce it perfectly during the next breeding season, without ever having practiced it. On the other hand, birds can learn the characteristics of poisonous foods in a single trial during any time of life. Following yet a different set of rules, locations of food caches are learned, updated, and erased on a daily basis. Using the same decision rules for each of these problems would be highly inefficient, and different memory systems in birds are anatomically distinct. Likewise, humans inherit different memory systems for dealing with different, sometimes conceptually incompatible, tasks, including learning language, learning to avoid poisonous foods, and remembering other people's faces.

Searching Across Species for Broad Theoretical Principles

An evolutionary approach to behavior involves an analysis of particular recurrent problems faced by the members of a given species and a search across species for correlations between common behaviors and common environmental conditions. It can be interesting to catalog unique adaptations (such as the color bands on coral snakes or the human ability to throw objects over long distances), but evolutionary theorists have a higher goal: to uncover common principles underlying these diverse adaptations. For example, the concept of differential parental investment ties together diverse findings from a wide range of species. Briefly, as animals invest more in their offspring, they become more selective about mating decisions. If an adult fish sprays

1,000 eggs on a rock and then swims away, and can do so every few weeks, the investment in any one offspring is necessarily less than if the reproductive adult guards a nest and protects a smaller number of fry until they are capable of fending for themselves. As each offspring becomes more costly to raise, questions about the fitness of the mate become more important. In most species, the female has a necessarily higher initial investment: Eggs are much more nutritionally costly to produce than are sperm. Thus, females have more to lose and are usually more selective about choosing a mate, preferring to mate only with males who are demonstrably more fit than their competitors (as manifested in healthier appearance, more colorful displays, etc.).

Sometimes females choose males who demonstrate a willingness to make their own investment, as in birds where males help build a nest and provide resources before females will mate with them. If one sex is relatively more careful about choosing mates, members of the opposite sex must compete to prove they are better alternatives. Differential parental investment theory helps explain why male vertebrates are often more competitive, larger, and/or more colorful— because females generally make a higher investment in offspring (in mammals, e.g., this involves internal gestation and nursing). In some species, such as elephant seals and orangutans, males are much larger than females and considerably more aggressive. In species in which both sexes share in raising offspring, as in swans and penguins, the sexes tend to be less differentiated. The theory explains seeming sex-role reversals, as in phalaropes, birds in which the females are more colorful and more competitive than the males. Male phalaropes actually make the higher parental investment, because they care for the eggs while females go off in search of additional mates. As a consequence, males are relatively more selective in choosing mates, and females are in turn larger and more competitive.

Sexual selection is another broad evolutionary concept closely linked to parental investment. It refers to the process whereby the members of one sex come to have unique characteristics that assist in mating. For example, in many hoofed animals, males have horns and females do not. When features such as horns are found in males, it suggests they are related to mating and are useful in competing with other males or attracting females.

Although human males and females both share in raising offspring, the physical and behavioral differences between them suggest a history of sexual selection. For example, females have deposits of fat on their breasts and hips not found in other primates, which may be there because they advertised fertility to males. Males are taller, have larger upper body muscles, and are more likely to engage in violent competitions with other members of their sex. This suggests our female ancestors were more likely to mate with males who could physically dominate other males. Modern mate preferences fit with these ideas, though the exact nature and magnitude of the human sex differences forged by sexual selection are still being debated.

Controversy Surrounding Evolutionary Psychology

Despite the evidence contradicting the blank slate view, many social psychologists are still uncomfortable taking an evolutionary perspective. Although most psychologists accept the obvious biological constraints on human behavior (such as that women bear and nurse children and that the human brain is uniquely designed for language), some psychologists still prefer to believe that the slate is blank or nearly blank in their own research area. Some of the reluctance to accept an evolutionary viewpoint is based on misconceptions about how evolutionary models are tested; other sources of influence are political. For example, some fear that if scientists admit there are biological influences on men's and women's motivations, this will justify inequitable treatment in the workplace. Evolutionary psychologists respond that scientific censorship is unlikely to lead to either credibility for the field or enlightened social policy. For example, if equal treatment of men and women in the workplace is based on a false premise that the sexes are identical, any evidence against that premise could be used to justify inequity. The social value placed on both sexes deserving fair treatment in modern environments ought not to depend on accepting or denying biological differences.

Some psychologists also fall prey to the naturalistic fallacy, the belief that what is natural is therefore good. The problems with this assumption are obvious if one considers that natural selection has produced viruses, predators, and nepotism. Other psychologists

understand the naturalistic fallacy but fear that the public (or at least unenlightened policy makers) will fall prey to the naturalistic fallacy if they hear about research suggesting evolutionary influences on behavior. Evolutionary psychologists generally believe that rather than suppressing scientific facts, understanding the actual mechanisms controlling behavior is the best way to change them. An increasing number of researchers are beginning to realize that humans' evolutionary past has shaped not only characteristics that are socially undesirable (such as male aggression) but also many positive features of human nature (such as familial love and the ability to cooperate with others to benefit the whole group).

Remaining Questions

Evolutionary psychology is an exciting area because many of the questions it raises have yet to be answered. Little is known about how genetic predispositions actually affect the development of psychological mechanisms. There is good evidence that men around the world are attracted to women manifesting signs of fertility, but researchers do not know much about how those preferences develop, which brain mechanisms are involved, and how any underlying mechanisms interact with the environment. Likewise, very little is known about the dynamic processes that take place as simple innate mechanisms underlying preferences in one person play out in the context of the preferences of other people around.

Until recently, evolutionary models have been applied to a small number of topics, such as sex differences in mating behaviors and aggressiveness, and preferential treatment of kin. Recently, however, psychologists have begun to realize that this general functionalist approach has implications for all aspects of human social behavior, including impression formation, friendship, intergroup relations, and prejudice. Thus, there are probably many exciting scientific discoveries yet to be made applying evolutionary ideas to the social behaviors of human beings.

Douglas T. Kenrick

See also Affordances; Cheater-Detection Mechanism; Dominance, Evolutionary; Ethology; Kin Selection; Sexual Selection; Sexual Strategies Theory; Sociobiological Theory; Sociobiology; Tend-and-Befriend Response

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EXCHANGE RELATIONSHIPS

The defining characteristic of an exchange relationship is that benefits are given with the expectation of receiving a comparable benefit in return or in repayment for a comparable benefit received in the past. When exchange rules are followed appropriately, each relationship member considers the exchange to be fair. Relationships between customers and storeowners often exemplify exchange relationships. For instance, a customer may pay a storeowner three dollars for a package of paper towels. Typically, relationships between employees and employers are also exchange relationships.

Exchange relationships are ubiquitous, which means they are found everywhere. Whereas many involve monetary transactions, as in the examples just given, many others do not. For instance, one set of parents with a child who plays soccer may form a car pool with another set of parents whose child plays soccer. Each set of parents agrees to provide the other's child transportation to practices in exchange for the other parents doing the same for their child. Another exchange relationship may exist between couple with a beach cottage who each year exchanges a week at that cottage for a week at another couple's condominium at a ski resort.

Exchange relationships may be short in duration (as when a person purchases something from another

at one point in time and never sees the other person again) or very long in duration (as when couples trade time in their respective vacation homes every year for 40 years). Although the motivation to follow exchange rules is typically selfish, it may be unselfish. An example of a selfish motivation is a person desiring dinner because he or she is hungry. That person then purchases the dinner from a restaurant owner. As an illustration of an unselfish motivation for following exchange rules, consider what might happen if one set of parents in the car pool could not drive 3 weeks in a row due to their car being repaired. The other set of parents might cover and even say, "Don't worry about it" to the couple with the car in the shop. However, the first couple might unselfishly insist on compensating the first set with a gift certificate to a fancy restaurant to honor the exchange agreement.

Exchange relationships are not exploitative relationships. They provide a fair way for people to obtain many goods and services that might not be available to them in close, communal relationships in which benefits are given to support the other's welfare non-contingently. Occasionally, when interpersonal trust is low, exchange rules are applied within relationships which are, normatively and for most individuals, communal in nature, such as marriages and other family relationships.

Margaret Clark

See also Communal Relationships; Justice Motive; Reciprocal Altruism; Reciprocity Norm; Social Exchange Theory; Trust

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EXCITATION-TRANSFER THEORY

Ever heard of overreacting? Such as when lovers, after yelling their heads off arguing, make up and experience unusually strong sexual pleasures? Or when a disagreement escalates from silly to serious, prompts an exchange of insults, and ends with bloody noses? Or when the girl who went along to a horror movie is so terrified that she snuggles up on her companion and finds him irresistibly attractive? It seems that even the most rational people are not immune to such overreacting. The famous philosopher and mathematician Bertrand Russell, for instance, let the world know that his sexual experience was never more intense than during extreme fear, when his bedroom was lit up by exploding grenades during the Nazis' bombardment of London. There is ample research evidence that supports this unlikely enhancement of pleasure by fear. Samuel Klausner observed, for example, that newcomers to parachuting tend to experience considerable fear before jumping but also intense joy upon landing. As jumping becomes routine and fear diminishes, joy fades away along with the fear.

The facilitation of pleasure in the aftermath of fear and similarly unpleasant reactions is by no means the only transition in which an earlier emotion intensifies a following one. The intensification occurs, no matter whether the prior and the subsequent emotions are pleasant or unpleasant. For instance, prior elation can enhance ensuing distress as readily as prior grief ensuing merriment. Likewise, prior anger can enhance ensuing rage as readily as prior gaiety ensuing exuberance. Dolf Zillmann proposed a theory of excitation transfer to explain this puzzling intensification of emotions that materialize in the aftermath of other emotional experiences.

Excitation as the Driving Force in Emotion

Excitation-transfer theory focuses on physiological manifestations of bodily arousal. All vital emotions are known to be accompanied by elevated sympathetic reactivity in the autonomic nervous system. According to the emergency theory of emotion advanced by Walter Cannon, the primary function of this reactivity is to provide energy for a burst of action to allow the organism to cope effectively with acute behavioral challenges. As coping via immediate physical action is rarely productive in contemporary situations of challenge, much of this energy provision has become defunct, if not dysfunctional. Such energizing excitatory reactivity has been retained nonetheless, mostly because of its mediation by archaic brain structures, as detailed by Joseph LeDoux and others. This reactivity still generates agitation that favors action over

inaction. Via feedback, such as heart pounding, palm sweating, or trembling hands, it fosters cognizance of the degree of bodily arousal. It ultimately signals emotional intensity and thus drives the experience and expression of emotions.

Cognitive and Excitatory Adjustment to Environmental Change

The time course of cognitive and excitatory reactions to emotion-arousing changes in the environment differs greatly. Cognitive adjustment to such changes is quasi-instantaneous because of the exceedingly fast neural mediation of cognition. In contrast, the hormonal mediation of sympathetic excitation via the cardiovascular system is lethargic, and excitatory adjustment to situational changes comes about only after considerable passage of time. The latency of excitatory responding may be negligible, but the duration of excitatory reactivity is not. Once instigated, this activity runs its course even after the instigating emotional challenge has ceased to exist and, owing to rapid cognitive adjustment, another emotion has come about.

Emotion Intensification by Leftover Excitation

Excitation-transfer theory is based on the apparent discrepancy in adjustment time. It addresses the consequences of persisting sympathetic excitation from an earlier instigated emotion for subsequently instigated emotions that may be different in kind. Specifically, the theory predicts that whenever particular circumstances evoke an emotional reaction at a time when portions of excitation are left over from preceding emotions, the leftover portions combine inseparably with newly instigated excitation and thus produce a total of excitatory activity whose intensity is greater than that specific to the new instigation alone. Leftover excitation may thus be considered to have artificially intensified the newly triggered emotion. In other words, the response to the new situation amounts to an overreaction.

An Illustration of Excitation Transfer

Imagine a lady who steps on a snake in the grass of her backyard. Deep-rooted survival mechanisms, organized in the brain's limbic system, will be activated and make her jump back and scream. A rush of adrenaline will have been released to elevate sympathetic excitation. Following these initial reactions, the woman is bound to construe her emotional behavior as fear and panic. She might also notice herself shaking and thus realize that she is greatly excited. However, upon looking once more at the object of her terror, she recognizes that the snake is a rubber dummy, planted by her mischievous son who enters the scene laughing his head off. This recognition, a result of instant cognitive adjustment to changing circumstances, proves her initial emotion of fear groundless and calls for a new interpretation of her experiential state. Still shaking from the scare, she is likely to feel acute anger toward her son. In her infuriation she might even lash out at him. But after fully comprehending the prank, she might consider being angry inappropriate and cognitively adjust once more, this time joining in his laughter and appraising her experience as amusement. Throughout this cognitive switching from experiential state to state, the excitatory reaction to the detected danger in the grass persisted to varying degrees. It initially determined the intensity of the fear reaction. The leftover excitation from this reaction then intensified the emotion of volatile anger and, thereafter, the experience of amusement in fits of hysterical laughter. In short, leftover excitation fostered overreactions in a string of different emotions.

Supportive Evidence

Emotion-enhancing excitation transfer has been demonstrated in numerous experiments. Dolf Zillmann and his collaborators have shown, for instance, that sympathetic excitation left over from sexual excitement can intensify such diverse emotions as anger, aggression, sadness, humor, and altruism. In the reverse direction, sympathetic excitation left over from either fear or anger proved capable of enhancing sexual attraction and sexual behaviors. In the realm of entertainment, moreover, excitation-transfer theory has been used to explain the facilitation of enjoyment in the aftermath of evoked aversions. Based on the observation that leftover excitation from feelings of tension, suspense, and terror is capable of intensifying experiences of joy and elation, strategies could be devised for the ultimate enjoyment of drama by the optimal arrangement of foregoing emotion-evoking events.

Dolf Zillmann

See also Arousal; Emotion; Misattribution of Arousal

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EXCUSE

Definition

An excuse involves circumstances in which people perceive that they have made mistakes and, in response to these uncomfortable situations, will say or do things to (a) make the mistakes seem not so bad, and/or (b) lessen their linkages to the mistakes. People are motivated to make excuses to preserve their images of being good and in control, and these preserved images are for both the surrounding people who may have witnessed the mistakes, as well as the actual people who made the errors. If the excuse is effective, the givers' positive images are preserved and they can continue to perform well and interact with people just as they did before the slip-ups happened.

History

There probably have been excuses for as long as there have been people making mistakes. Nevertheless, a common view among lay people is that excuses are transparent and useless ploys. Also, the individual believes that other people use excuses but that he or she does not. Contrary to these negative views among the public at large, however, researchers have found that excuses are serious and generally effective coping mechanisms when used in moderation.

Alfred Adler first discussed the role of excuses in *safeguard mechanisms,* which are coping strategies for maintaining the positive self-images of people. Scholarly interest in excuses was kindled in the 1970s and 1980s when social psychologists began to explore the attributions that people make for why things happened to them. During this same time period, work on excuses increased when researchers' attentions shifted to what was called *impression management*, or the attempts that people make to maintain their favorable self-images—both for the external audiences of other people and the internal audience of oneself.

Evidence

As psychologists began to study excuses, they observed what people said and did after they had made mistakes or failed in important activities. There were two common responses that people produced. First, people would say things to lessen the seeming badness of their mistakes. For example, a man who is trying to lose weight breaks his diet by having a piece of cake. He then goes into excuse-making mode as he tries to diminish the badness of this misdeed by saying, "It was only a small piece of cake." Second, people attempt to lessen their linkages to their mistakes. For example, consider a young girl who picks up her friend's doll and takes it home. Later, when caught in this theft, she says, "Patty (the playmate who owns the doll) said I could have it (this not being true)."

After observing such real-life examples of excusing, researchers set up experimental situations in which the participants would fail at ego-involving tasks. One experimental approach was to give students a classroom-like learning experience and afterward deliver feedback to one set of students that they had done very poorly (the failure condition). In comparison to another groups of students, who were told that they had done very well, these failure-feedback students were more likely to state that the task was very difficult. Such excuse making made it seem as if their bad performances really were not so bad after all because most other students also did poorly (thereby maintaining a positive image); moreover, if the task truly was so difficult, the inherent logic was that the task caused the poor performance rather than it being the responsibility of the student (thereby lessening that student's linkage to the poor performance). This "everyone would do poorly on that task" represented a "double play" type of excuse in that it preserved the positive image and lessened the student's responsibility for the failure.

There is yet other research that has examined the effects of making excuses upon excuse makers' subsequent performances. Generally, when compared to people who were not allowed to make excuses, persons who have been allowed to make successful excuses for poor performances will do better the next time they undertake the same tasks. The reasoning here is that successful excuses allow people to preserve their self-views about being effective people, and thus they can go into the next performance situations and remain focused and energized to do well. These successful excusing people are to be contrasted with people who either are not allowed to make excuses or whose excuses fail. These latter people are demoralized when they face the next similar performance situations and, accordingly, they are unlikely to do well.

Last, research shows that when a person makes a mistake or fails, there is considerable tension among the surrounding people until an excuse is offered. Therefore, if the person who actually made the mistake does not offer an excuse, the nearby people will jump in and make excuses for that person. This shows how necessary excuses are for the surrounding social context.

Importance and Implications

Among the public at large, excuses are seen as silly and lightweight ploys that are used by other people. Contrary to this negative view, the research evidence shows that excuses assist people in coping with their fallibilities and proneness to making mistakes. One advantage of excuses is that they help people to maintain a sense of esteem and control in their lives. Without excuses, people would be faced with the terrifying possibility that they are absolutely responsible and accountable for their errors and blunders. Living in such a no-excuse world, people would fall into unmotivated states of depression. Similarly, excuses facilitate social exchanges among people. That is to say, if people knew that they could not call on excuses in their future endeavors where they might fail, they would be unwilling to take chances and try such new activities. Thus, excuses provide a social lubricant so that people can attempt new things with the understanding that others will accept their excuses. Having stated these advantages of excuses, however, it should be emphasized that such excusing is only effective when it is used in moderation and is not employed in the presence of experts who can refute the person's excuse.

C. R. Snyder

See also Attributions; Coping; Forgiveness; Impression Management; Self-Handicapping

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Executive Function of Self

Definition

The executive function of self refers to the internal capacity to choose and to direct one's own behavior. Although behavior undoubtedly is shaped by forces outside of one's control, including genetics, cultural norms, and happenstance, some behavior is consciously intended and therefore shaped in part by the person. The executive function of self is used whenever people plan, choose, or control their own actions.

An appropriate analogy is to a chief executive officer (CEO) of a complex organization or business. In business, most daily affairs proceed without the direct oversight or awareness of the CEO, yet the CEO makes key choices and is ultimately responsible for charting the course of the organization. In daily life, most individual behavior also is accomplished without executive guidance, yet the self occasionally intervenes to choose which of several possible actions to perform or to alter its habitual responses.

Scope and Importance

The executive function is a hallmark characteristic of human selfhood and is relevant for several areas of psychology. In social psychology, research on delay of gratification, choice, and self-regulation all concern

the executive function of self. Enduring short-term pain for long-term gain requires the ability to plan for the future and to forego immediate relief or pleasure. Making a choice commits a person to one course of action and places some responsibility for the consequences on the self. Keeping cool in a crisis involves regulating fear or anxiety, or at least the appearance of them. All these behaviors require executive action. Furthermore, forces that undermine the executive function, such as distraction, fatigue, and stress, impair all of these behaviors.

Clinical psychology supplies dramatic evidence of the consequences of impaired executive functioning. For instance, major depression reflects a lack of mood control, and addictive behavior signals a lack of impulse control. Improving the capacity for executive control promises to provide powerful treatment for several psychological disorders. Evidence already exists to support the benefits of executive control in normal, healthy individuals. Personality psychologists have found that people who excel at executive control enjoy greater successes in life, including better grades, more satisfying relationships, and greater happiness than people who struggle with executive control.

In cognitive psychology, the executive function of self is studied in connection with learning and memory, planning, and the control of attention. Generally, people with high executive ability are faster learners, make better use of plans and strategies, and more ably control their attention than people with low executive ability. The executive function is also crucial for performing novel tasks and for coping with unfamiliar situations. When habits and prior learning provide only rough guides to behavior, the executive function of self intervenes to generate new responses and to steer behavior in new directions.

Developmental psychologists examine changes in executive function over time and have found that the capacity for executive control is closely related to the growth and maturation of the frontal lobes of the human brain. Moreover, damage to the frontal lobes is associated with deficits in executive functioning, including poor planning, faulty reasoning, and an inability to coordinate complex social behaviors. Perhaps the most infamous case of frontal lobe damage is Phineas Gage, a railroad worker who had a tamping iron blown through his skull in 1848. Following the accident, Gage had problems controlling his emotions and abiding by social and cultural norms, although his memory and intelligence remained intact. Researchers now believe Gage suffered severe damage in areas of the brain involved in the executive function of self.

Enduring Issues

The idea of willed, intentional action seems to contradict the scientific pursuit of material, especially biological or chemical, causes of behavior. Some theorists believe the notion of a willful "little person" or homunculus in the brain that controls behavior is an unsatisfying and unscientific explanation that cannot be empirically tested or verified. Other theorists accept the idea of a homunculus or internal controller while acknowledging the shortcomings of this approach. These theorists work as if a homunculus or internal controller exists and await a more precise specification of its biological foundations. Still others study the executive function of self by examining overt behavior or the subjective feeling of executive control and ignore the call to locate its biochemical basis.

Another unresolved issue concerns the measurement of the executive function of self. The executive function appears to be involved in a variety of behaviors, and there is little or no consensus regarding which single task or test best measures it. As a result, many researchers rely on multiple tasks to assess the operation of the executive function, whereas other researchers focus more narrowly on specific tasks, such as tasks that involve mainly planning or response inhibition. Each approach has its drawbacks. The broad, multitask approach seems ill-suited to specify the precise capabilities of the executive function, and the narrow, single-task approach may not capture all of its varied capabilities.

The problem of measurement contributes to another issue: whether the executive function of self should be considered a general purpose capacity, used in emotional, cognitive, and behavioral processes alike, or whether the executive function should be considered a more specific capacity, used, for example, in attention control or planning for the future. On balance, the evidence suggests that the executive function of self is a general purpose capacity used in a wide variety of behaviors. However, this conclusion may be the direct result of imprecise measurement. More precise definition and measurement of the executive function of self may help to specify its core features and clarify its scope and breadth.

Brandon J. Schmeichel

See also Ego Depletion; Self; Self-Regulation

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EXEMPLIFICATION

Definition

Exemplification is defined as a strategic self-presentational strategy whereby an individual attempts to project an image of integrity and moral worthiness. A person can accomplish exemplification by presenting him- or herself as honest, disciplined, self-sacrificing, generous, or principled. When successful, a person who exemplifies integrity and moral worthiness may be able to influence other people to follow his or her example.

History and Modern Usage

Like other self-presentation strategies, the goal of exemplification is to gain power over others by controlling the perceptions of the actor's character. The power of exemplification comes from the guilt or shame that observers experience in the face of the actor's moral and charitable actions or claims. There are many exemplifiers in history that achieved great political power by engaging in principled and self-sacrificing behavior (e.g., Gandhi and Martin Luther King). Nevertheless, exemplification is also a strategy people use in everyday interactions to win favor with an audience. Parents, for example, can use exemplification to influence their children by extolling their own virtuous behavior, or a celebrity can exemplify a generous and caring image by soliciting donations for a charity during a telethon. In each case, the target audience can be motivated to avoid or reduce their feelings of guilt by performing the target behaviors requested by the exemplifier. And even if they do not, the exemplifier may still benefit if he or she leaves a lasting impression of integrity and moral worthiness on the audience.

Exemplification can also be a risky strategy if not executed properly. For example, exemplification is likely to fail if the audience feels "put down" by the actor; to create a positive impression, the exemplifier needs to exhibit or claim moral integrity without appearing morally superior to the audience. Moreover, research on exemplification suggests that when an exemplifier is caught in a transgression, the audience perceives the actor to be a hypocrite and self-deluded, leading to especially harsh judgments of the actor's character. Other studies suggest that upon discovering past failures to uphold moral standards, the would-be exemplifier may experience cognitive dissonance and become motivated to change the errant behavior. Thus, the use of exemplification to win favor requires that we practice what we preach, or at least maintain the impression that we do, without explicitly stating that our integrity makes us superior to others.

Jeff Stone

See also Deception (Lying); Impression Management; Ingratiation; Self-Presentation

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EXPECTANCY EFFECTS

Definition

An expectancy effect occurs when an incorrect belief held by one person, the perceiver, about another person, the target, leads the perceiver to act in such a manner as to elicit the expected behavior from the target. For example, if Mary is told that a new coworker, John, was unfriendly, she may act in a more reserved manner around him, refrain from initiating conversations with him, and not include him in activities. John

might then respond to Mary's standoffish behavior by similarly not initiating conversations or activities with her, thus confirming her expectancy that he is unfriendly. Expectancy effects are thus a subcategory of self-fulfilling prophecies that occur in an interpersonal context.

Background

Self-fulfilling prophecies have long been noted and studied by social scientists. The bank failures of the Great Depression are frequently offered as a classic example: An inaccurate rumor would circulate that a bank was about to fail. This would cause a run on the bank, with customers hurrying to withdraw their funds before the bank ran out of money. Banks, of course, do not keep enough cash on hand to cover all their deposits, so a run on the bank would eventually force it into failure, a victim of its clients' false expectancies.

Research on expectancy effects began with the work of Robert Rosenthal, who looked at experimenters' expectations. Rosenthal demonstrated that sometimes experimenters may obtain their results in part because their expectations led them to treat their experimental participants in a biased manner, eliciting the hypothesized behavior. This work led to the ultimate realization that researchers need to design their studies so as to prevent experimenter expectancy effects. Fortunately, there is an easy solution to this problem: If studies are run in which experimenters are blind to the experimental condition of the participants (i.e., if they do not know which participants are in the experimental vs. control groups), then it is impossible for them to bias their participants' responses. The double-blind experimental design remains today the gold standard of research.

Research on expectancy effects then turned to other interpersonal contexts. The classic *Pygmalion in the Classroom* study showed that students whose teachers were told were academic bloomers (but who had in fact merely been randomly labeled as such) showed significant gains in IQ over the school year compared to students who had not been labeled academic bloomers.

Current Research

Current research on expectancy effects has moved beyond mere demonstrations that they occur to identifying and understanding the theoretical and methodological variables that moderate expectancy effects.

In other words, for what kinds of people and in what kinds of situations are expectancy effects more likely to occur?

Research examining these questions indicates that, while there are individual differences that moderate expectancy effects, such as self-esteem, gender, and cognitive rigidity, situational factors such as the relative power of the perceiver and target and how long they have known each other appear to be more important predictors of expectancy effects. An expectancy effect is more likely to occur when the perceiver is in a position of greater power than the target (such as in a teacher–student relationship) and when the perceiver and target have not been previously acquainted. The longer the individuals know each other, the less likely it is that perceivers will either form or be influenced by incorrect expectancies.

Relatedly, much of the recent research in this area has been dedicated to the question of determining how powerful expectancy effects are in naturally occurring contexts as opposed to the laboratory. Laboratory experiments typically yield expectancy effects of larger magnitude. In the real world, accuracy effects (i.e., when the expectations formed by the perceiver reflect the actual abilities or traits of the target) appear to be more prevalent than expectancy effects, which occur less often or tend to be lower in magnitude.

Another major question in this area concerns the mediation of expectancy effects; in other words, what are the behaviors by which the perceivers' expectations are communicated to the target? While the specific mediating behaviors involved depend on the context of the interaction, the vast majority can be classified as falling into the dimensions of affect or effort. *Affect* refers to the socioemotional climate that is created by the perceiver, and it involves primarily nonverbal cues associated with warmth and friendliness. Thus, a teacher who has high expectations for a student will smile more, use a friendlier tone of voice, and engage in more eye contact with the student. *Effort* refers primarily to the frequency and intensity of interactions between the perceiver and target. A teacher with positive expectations of a student, for example, will attempt to teach more material and more difficult material to that student, ask more questions, and spend more time talking with the student.

Importance

Because inaccurate expectations can have such serious ramifications, this remains a topic of social

psychological research with considerable importance in both methodological and real-world domains. For example, knowing that experimenters' expectations can unintentionally bias their results has led to major improvements in how researchers design and conduct experiments, in psychology as well as other fields such as medicine.

Of greater social importance is understanding the role that others' expectations of a person can play in determining a person's outcomes in life, ranging from events as trivial as whether he or she gets along with a new coworker to matters of tremendous significance, such as whether he or she ultimately succeeds or fails in school. To say that expectations can have self-fulfilling consequences is therefore a message both of warning and hope. It is a message of warning because inaccurate negative expectations can doom an otherwise-capable person from achieving his or her full potential. It is also a message of hope, because positive expectations on the part of an important person in one's life—parent, teacher, employer—can help lead one to accomplishments only dreamed of earlier.

Monica J. Harris

See also Individual Differences; Nonverbal Cues and Communication; Self-Fulfilling Prophecy

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EXPECTATIONS

Definition

Expectations are personal beliefs about occurrences that may take place in the future. Expectations develop from a combination of individuals' experiences and knowledge. For example, if one has the knowledge that a relative's birthday is next Saturday and experience indicates that a family get-together was held each of the past 5 years on that relative's birthday, then it is reasonable to have the expectation that a birthday celebration is likely to occur next Saturday. Expectations serve a basic function to prepare humans for action. The choices humans make are based on the expectations they hold for how their decisions will affect themselves and the world around them at some future time. Expectations range in certainty from a small possibility of occurrence to an almost certain occurrence. Expectations can be automatic and not given much thought, for example, expecting there will be sufficient oxygen available for breathing, or they can be deliberate, such as expecting one will make a positive impression on a new acquaintance.

Consequences

Expectations affect how people think, feel, and behave. Expectations affect our thought processes involved in attention, interpretation, explanations, and memory. People pay more attention to information that is consistent with expectations or noticeably inconsistent. Expectations guide how people interpret information; specifically, people are more likely to interpret uncertain information consistent with their expectations. People are more likely to generate explanations for an event when it is contrary to expectations rather than consistent with expectations. Finally, people are more likely to remember information that is either clearly consistent with expectations or clearly inconsistent.

Expectations affect how people feel, including attitudes, anxiety, and depression. Attitudes, or one's evaluation of an object, are a reflection of people's expectations about the object combined with the value or importance they place on the object. Negative expectations, such as expecting to fail on a task, can lead to increased anxiety and depression. In contrast, positive expectations, such as believing in one's ability to perform well on a task, can lead to decreased anxiety and depression and positive feelings.

Finally, expectations affect how people behave in many areas, such as choice of tasks, amount of effort exerted, drinking alcohol, and cooperation. In general, people behave in ways that are consistent with their expectations. For example, people choose to engage and put more effort into tasks for which they expect to succeed. Having positive expectations about drinking alcohol, such as increased social ability or sexual performance, is related to increased alcohol consumption. Expectations affect whether people will react in a cooperative or competitive manner with coworkers. If people expect their coworker dislikes them and/or is a competitive person, individuals will respond competitively. In contrast, if people expect their coworker likes them and/or is a cooperative person, individuals will respond cooperatively.

Application

The examination of how people's expectations affect their thoughts, feelings, and behaviors has been applied to many areas of social life, including close relationships, academic performance, health-related behaviors, forming first impressions, judgments, decision making, and the development of worldviews (how one sees the world).

Bettina J. Casad

See also Confirmation Bias; Self-Fulfilling Prophecy

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EXPERIMENTAL CONDITION

Definition

There are many research methods available to the psychological scientist. Some allow researchers to describe phenomena (surveys and observational studies), and another allows researchers to explain phenomena (an experiment). To explain a phenomenon, one must be able to determine cause and effect. The only research method that can do that is an experiment. Scientific experiments are based on observations when a variable has been introduced into a controlled situation. Inferences can be made about the differences between observations and then used to develop theories and to generalize to other similar situations. The controlled situation, in which variables are manipulated and effects measured, comprise the design of the experiment.

In setting up the context, the experimenter must hold as many conditions constant as possible in the situation, while manipulating a variable(s). The variable that is manipulated by the experimenter is called the independent variable (IV); it is free (independent) to be varied by the experimenter. What is being measured is called the dependent variable (DV); it "depends" on the manipulation of the independent variable. Holding conditions constant means making sure that no relevant variable in the experiment is varied besides the IV. The experimental condition is the one in which the IV is presented. The results from this condition can then be contrasted with the results from the control condition, where the IV was not presented. The idea of controlled contrasts is central to experimental design.

Types of Experimental Designs

There are many types of experimental designs. Experimenters may design studies that have one or several independent variables. Similarly, they may have one or several dependent variables. Other variations in experimental design include whether or not the participants are exposed to all manipulations of the IV. If they are, then it is called a *within-subjects design*. If they only are exposed to one manipulation of the IV, it is called a *between-subjects design*. The design of the experiment also includes the order of events and how participants are assigned to conditions. Designing an experiment involves a series of decisions and justifications about all of these issues.

An Example

A researcher is interested in whether stress causes a decrease in cognitive performance. First, the experimenter must decide what the manipulation will be. The researcher could decide that the IV would be the presentation of a loud tone. This researcher would need to justify (usually through a review of previous literature) that a loud tone is stressful (and he or she would have to specifically define what "loud" meant). Next, the researcher would need to determine what the DV would be, in other words, how would cognitive performance be measured? Percent correct on a math test, or time to complete a puzzle task, could each be a DV. By controlling the presentation of an IV in the experimental condition, the researcher can see its effect on cognitive performance by comparing the findings to those in the control condition. By exerting both types of control (manipulation of the IV, holding conditions constant), any differences in the DV (i.e., differences in scores/time between participants who heard different tones) can be attributed to the manipulation of the IV (the different tones).

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See also Control Condition; Experimentation; Research Methods

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EXPERIMENTAL REALISM

Definition

Experimental realism is the extent to which situations created in social psychology experiments are real and impactful to participants.

Background

The concept of experimental realism was developed in response to criticism that most social psychology experiments take place in artificial laboratory settings and thus are invalid for examining how people truly think and act. In 1968, Elliot Aronson and J. Merrill Carlsmith addressed this concern by distinguishing between reality created in experimental situations and reality encountered outside of the laboratory. They argued that experimental situations that are sufficiently engrossing to participants can elicit psychological states of interest regardless of how similar the experimental events are to everyday events.

Experimental Realism Versus Mundane Realism

Aronson and Carlsmith distinguished between experimental realism and mundane realism. *Experimental realism* refers to the extent to which participants experience the experimental situation as intended. *Mundane realism* refers to the extent to which the experimental situation is similar to situations people are likely to encounter outside of the laboratory. Social psychologists are generally more concerned with experimental realism than with mundane realism in their research because participants must find the situation attention-grabbing and convincing in order for the experiment to elicit targeted sets of beliefs, motives, and affective states necessary to test the research hypothesis. A study that accomplishes this can provide much important insight, independent of how much mundane realism it possesses.

For instance, in Stanley Milgram's classic investigation of obedience, participants were instructed to administer a series of electric shocks to an unseen confederate (though no shocks were actually delivered). As part of a supposed learning study, participants acted as "teachers" and were instructed by the experimenter to administer shocks of increasing intensity for every wrong response offered by the confederate. The events of this study were highly artificial; it is certainly far from normal to administer shocks to another human being under the instruction of an experimental psychologist. Yet, rather than questioning the reality of the situation, participants became extremely invested in it. Because participants took the experimental reality seriously, they responded naturally, shuddering and laughing nervously as they obeyed and administered increasing levels of shock. Due to the high impact of this study, an otherwise sterile laboratory setting was transformed into a legitimate testing-ground for examining human obedience.

The Importance of Experimental Realism

Experimental realism is of central importance to experimental social psychology. To capture the essence of important social psychological phenomena within laboratory settings, it is often necessary to use deception to construct events that seem real, nontrivial, and impactful to participants, within the bounds of ethical considerations. When this is accomplished, participants are unlikely to be suspicious of deceptive tactics in experiments, allowing researchers to investigate the psychological variables they want to study.

Spee Kosloff

See also Ecological Validity; Milgram's Obedience to Authority Studies; Mundane Realism; Research Methods

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EXPERIMENTATION

Definition

In its simplest form, experimentation is a method of determining the presence or absence of a causal relationship between two variables by systematically manipulating one variable (called the independent variable) and assessing its effect on another variable (called the dependent variable).

Importance and Consequences

The hallmark of experimentation is that it allows researchers to make statements about causality. There are several features of experiments that facilitate such claims:

1. Experiments allow researchers to create a situation in which changes in the independent variable precede assessment of the dependent variable—making it possible to draw conclusions about the directionality of the relationship. This is important, because to establish a cause-and-effect relationship between two events, the event that one supposes to be the *cause* must precede the event that one supposes to be the *effect.*

2. Experimentation entails randomly assigning participants to experimental groups. When random assignment is employed, each participant has an equal chance of being assigned to any of the conditions in a study. This technique allows researchers to assume that the experimental groups of participants are equivalent at the outset of the study. Thus, researchers can safely attribute any observed differences in the dependent variable to the experimental manipulation without worrying about the possibility that naturally occurring differences between the groups of participants could account for these differences.

For example, suppose that a researcher wants to determine whether playing chess causes an increase in creativity among fifth graders. Imagine that the researcher decides to have two groups: one group that plays chess for an hour after school each day for 6 months and a control group that has free time for an hour after school each day for 6 months. At the start of the study, the researcher recruits a group of 80 fifth graders and allows them to sign up to either play chess or get free time. Six months later, the researcher gives all the kids a creativity test. Sure enough, the researcher finds that the 12 kids who chose playing chess scored higher on the creativity test than the 68 kids who chose free time. Can the researcher say that chess caused an increase in creativity? No—because the kids who chose to play chess might have been more creative than those who chose free time. Thus, the group differences in creativity may have been there from the start and may have had nothing to do with the researcher's manipulation. To do this experiment properly, the researcher should randomly assign the students to a condition, so that 40 played chess and 40 had free time. By doing so, the researcher could assume that the two groups were equivalent at the start of the study, and so any differences in creativity at the end of the study could be attributed to the independent variable (in this case, playing chess vs. having free time) and not to differences in creativity that existed before the study began.

3. Experimentation allows researchers to isolate the effect of the independent variable by controlling all other elements of the environment, thereby ensuring that all of the participants in a given study undergo a similar experience, with the exception of the experimental manipulation. In the chess versus free time example, imagine that the kids in the chess group always listened to classical music while they played chess, whereas the kids in the free time group did not listen to music. At the end of the study, could the researcher be sure that the difference in creativity between the two groups was due to the game that they played? No—because whether the kids listened to classical music also may have influenced their creativity. To do the experiment properly, the two groups should be identical with the sole exception of the independent variable (chess vs. free time). In this way, the experimenter could be sure that it was really the independent variable that influenced the student's creativity and not some other factor.

Some scholars have questioned the utility of experimentation, noting that the experiments which researchers design sometimes do not resemble the circumstances that people encounter in their everyday lives. However, experimentation is the only research method that allows one to definitively establish the existence of a causal relationship between two or more variables.

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See also Control Condition; Experimental Condition; Research Methods

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EXPERIMENTER EFFECTS

When scientists conduct experiments, influences and errors occur that affect the results of the experiments. Those influences and errors that occur because of some characteristics of the experimenter or because of something the experimenter did are called experimenter effects. They reduce the validity of the experiment, because the results do not really tell about the hypothesis; they show that the experimenter somehow (usually unwittingly) influenced or changed the results. For that reason, most good researchers look for ways to prevent or minimize experimenter effects. There are two major kinds of experimenter effects: noninteractional and interactional.

Noninteractional Effects

Noninteractional effects are found in research that does not require experimenters' interaction with human or animal research subjects. There are three major subtypes of such effects:

1. Scientists observe human behavior, animal behavior, or natural events and record what is observed, but there are errors in what is recorded. These are called *observer effects.* For example, an experimenter who is responsible for counting the number of mistakes someone makes might fail to count some mistakes that would contradict the experimenter's theory.

2. Scientists look at the results of research, which may be accurate enough but which the scientist then interprets incorrectly. For example, researchers might get the opposite results of what they expected based on their theory, but after thinking about it, they may decide that the results support their theory after all. These are called *interpreter effects.*

3. Scientists intentionally report falsified results of research. For example, a researcher (such as a student worried about having a good dissertation) might produce fake data instead of collecting real observations. These are called *intentional effects.*

Interactional Effects

Interactional experimenter effects occur when the experimenter works (or interacts) with human or animal subjects. There are several major subtypes of interactional experimenter effects:

1. *Biosocial effects* operate when the experimenter's age, sex, or race unintentionally influences the outcome of the research. Subjects may respond differently to an experimenter, depending on whether the experimenter is male or female; Asian, African American, or Caucasian; old, middle-aged, or young. In addition, the subject's age, sex, and race may influence the manner in which an experimenter behaves.

2. *Psychosocial effects* are the effects associated with experimenters' psychological and social characteristics. Examples of these characteristics include anxiety, a need for approval, hostility, warmth, or authoritarianism, all of which may affect the behavior or responses of the subjects in an experiment.

3. *Situational effects* are found in the experimental environment itself. These effects may occur because of the physical characteristics of the laboratory, the experimenter's previous acquaintanceship with the subject, or whether the subject is the first person participating in the experiment or one who participates later in the experiment.

4. *Modeling effects* occur when experimenters have tried out the experiment on themselves, and their responses to the experiment are later unintentionally communicated to their subjects, causing the subjects to behave or respond similarly to the behavior or responses of their particular experimenter.

5. *Expectancy effects,* the most frequently studied experimenter effect type, occur when the results of the experiment are in the direction that the experimenter expects them to be. This expectancy is communicated by subtle cues through various channels of nonverbal communication, such as tone of voice, facial expression, and body movement.

In an experiment running rats in a maze, if the experimenters were told that their rats were good

maze runners (bright), the rats ran the maze well. If the experimenters were told their rats were poor maze runners (dull), the rats ran the maze poorly. What the experimenters expected from their rats determined the actual behavior of the rats, although the rats had been assigned their labels of "bright" or "dull" completely at random. (It is believed that the experimenters may have communicated their expectancy to the rats by handling them more gently if they believed they were bright and handling them more roughly if they believed they were dull.) A very early study involved a horse named Clever Hans who belonged to Mr. von Osten, a mathematics instructor. Clever Hans could perform mathematical calculations by tapping his foot in response to questions. After much close observation, a scientist found that nonverbal, almost imperceptible, head movements from Mr. von Osten, or even strangers asking Hans a question, told Hans when to start tapping and when to stop.

During the 20th century and so far in the 21st, as the various experimenter effects have been recognized to be affecting experimental research, researchers in many disciplines, such as psychology, sociology, anthropology, and medicine, have devised experimental procedures and precautions to reduce experimenter effects in their research.

Robert Rosenthal

See also Expectancy Effects; Influence; Self-Fulfilling Prophecy

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EXPERTISE

Expertise refers to the psychological processes that underlie the superior achievement of experts, who are typically defined as those who have acquired special skills in, or knowledge of, a particular subject through professional training and practical experience. The term *expert* has a long history that can be traced all the way back to the training of skilled craftsmen in the guilds of the Middle Ages. At that time most of the professional skills, such as shoemaking, tailoring, and weaving, were taught through an apprentice system, whereby adolescents worked for a master in return for being allowed to observe and learn the skills of the trade. When the apprentices had sufficiently learned the necessary skills enabling them to work independently, they often left the master and traveled around the country as journeymen to find work. This allowed them to further develop their skills until they had reached a level of understanding and mastery of their craft to attain expert status. Eventually they would have accumulated skills to produce master pieces, which would meet the quality standard set by masters in the guild, who would give them permission to set up their own shop and accept their own apprentices.

Over time, the terms *master* and *expert* have been extended and are today used to describe a wide range of highly experienced professionals, such as medical doctors, accountants, teachers, and scientists. Its usage has even been expanded to include any individual who has attained superior performance by instruction and extended practice, ranging from birdwatchers to pianists, golf players to chess players.

When elite ice skaters, chess players, and musicians demonstrate outstanding skill in public, their performance often looks extremely natural and surprisingly effortless. To the casual observer, these exhibitions appear so extraordinary that it seems unlikely that most other performers, regardless of the amount or type of training, will ever achieve similar performance levels. It is tempting to attribute these amazing achievements to the performer's unique innate talent, deemed necessary for such superior performance achievement. However, when scientists began measuring the experts' presumed superior powers of speed of thought, memory, and intelligence with psychometric tests, no general superiority was found; the demonstrated superiority was limited to particular types of stimuli and activities. For example, the superiority of the chess experts' memory was constrained to regular chess positions and did not generalize to other types of materials. Not even IQ could distinguish the chess masters among chess players nor the most successful and creative among artists and scientists. Recent reviews show that (a) measures of general intelligence do not reliably distinguish those who will succeed in a domain, (b) the superior performance

of experts is often specific to a domain of activity and does not transfer outside their narrow area of expertise, and (c) individual differences between experts and less proficient individuals nearly always reflect attributes acquired by the experts during their lengthy training.

The pioneering research on the thought processes at the highest levels of performance studied expert and world-class chess players. To gain insight into differences in speed and structure of thinking, the chess players were instructed to think aloud while selecting the next move for unfamiliar chess positions. The world-class players did not differ from the less skilled players in the speed of their thoughts or the size of their basic memory capacity. The superior ability of the world-class players to generate better moves was based on their extensive experience and knowledge of patterns in chess. In the first formal theory of expertise, William G. Simon and Herbert A. Chase proposed that experts with extended experience learn a larger number of complex patterns and use these new patterns to store new knowledge about which actions should be taken in similar situations.

According to this influential theory, expert performance is viewed as the result of skill acquired with gradual improvements of performance during many years of experience in a domain. With further experience and instruction, aspiring experts acquire more knowledge about the domain, so it is tempting to assume that the performance of experts improves as a direct function of increases in knowledge through training and extended experience. However, there are now many demonstrations that extensive domain knowledge does not necessarily result in superior performance. For example, the outcomes of psychological therapy do not improve as a function of the length of training and professional experience of the therapist. Similarly, the accuracy of decision making, medical diagnosis for common diseases, and the quality of investment decisions do not improve with further professional experience. More generally, the number of years of work and experience in a domain is a poor predictor of attained level of professional performance.

In a pioneering study, Benjamin Bloom and his colleagues studied the developmental history of scientists, athletes, and artists who had won international prizes for their outstanding achievements. These elite performers did not acquire their performance from regular activities within their respective domains, in which most amateurs participate, but they were identified early and given special opportunities to study and train in the best educational environments. Their families provided substantial financial and emotional support to allow them to focus fully on the development of their performance. Bloom's influential research demonstrated the necessity for extended training in the best training environments to reach the highest levels of performance.

Subsequent research by K. Anders Ericsson, Ralf Krampe, and Clemens Tesch-Römer analyzed the effects of different types of experience on the improvement of performance. They found that in activities in which individuals had attained an acceptable level of performance, such as recreational golf and many professions, even decades of continued experience was not associated with improvements in performance. The aspiring expert performers, who were able to keep improving their performance for decades, were found to seek out particular kinds of experiences involved in deliberate practice—that is, activities designed, typically by a teacher, for the sole purpose of effectively improving specific aspects of an individual's performance. In support of the critical role of deliberate practice, expert musicians differing in the level of attained solo performance also differed in the amounts of time they had spent in solitary practice during their skill development, which totaled around 10,000 hours by age 20 for the best experts, around 5,000 hours for the least accomplished expert musicians, and only 2,000 hours for serious amateur pianists. Many subsequent studies have found that the accumulated amount of deliberate practice is closely related to the attained level of performance of many types of experts, such as surgeons, radiologists, musicians, dancers, chess players, and athletes.

The recent advances in our understanding of the concepts, knowledge, and skills that mediate experts' superior performance come from studies in which experts are instructed to think aloud while they complete tasks that are representative of essential activities in their domains. Other advances come from researchers who record where the experts are looking while they perform the same type of tasks. Finally, important advances result from attempts to build computer programs (expert systems) that are capable of regenerating the performance of human experts.

These studies that monitor the experts' cognitive and perceptual processes have found that the differences

between experts and less skilled individuals are not merely a matter of the amount and complexity of the accumulated knowledge; they also reflect qualitative differences in strategies, organization of knowledge, and representation of problems. During the extended development of their performance abilities, experts acquire domain-specific memory skills that allow them to use long-term memory (long-term working memory) to dramatically expand the amount of information that can be kept accessible, while the experts plan and reason about alternative courses of action in a situation. The superior structure of the experts' mental representations allow them to adapt to changing circumstances as well as anticipate future events, so the expert performers can respond with impressive speed without any innate neurological advantage. The same acquired representations have been found to allow experts to have the ability to monitor and self-regulate their own performance so that they can keep improving their own performance by designing their own training.

In this way, experts' superior skills are primarily acquired, and expertise is developed through mental and physical adaptations to the demands of the task domains.

K. Anders Ericsson

See also Achievement Motivation; Automatic Processes; Learning Theory; Memory

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EXTRAVERSION

Definition

Extraversion is one of the most studied traits in personality psychology. Some form of the trait has been included in almost every comprehensive model of personality. At the broadest level of description, extraversion reflects the extent to which a person is interested in and enjoys social interaction. However, this broad trait also encompasses a number of more specific facets. For instance, each of the following facets has been included in at least one major model of extraversion: impulsivity, assertiveness, activity level, the tendency to engage in excitement-seeking behaviors, the experience of positive emotions, and feelings of warmth toward others. Given the relative diversity of these characteristics, it should be no surprise that psychologists disagree about which of these narrower facets is the defining feature of extraversion (or whether a defining feature even exists). Modern personality psychologists strive to resolve this debate and to understand the psychological and physiological processes that underlie this trait.

Models of Extraversion

The history of extraversion research is as long as the history of psychology itself. Precursors of the trait can be found in the writings of the ancient Greeks, though many psychologists trace the origin of modern extraversion research to Carl Jung. Jung believed that individuals varied in their orientation to the external world. Extraverts were thought to be characterized by strong and immediate reactions to the objective features of the environment. Introverts, on the other hand, were thought to be more tuned in to the internal, subjective feelings that objects in the world create. Thus, extraverts were thought to be adept at dealing with the changing external environment (and perhaps somewhat impulsive), whereas introverts were thought to be less adaptable and more prone to introspection.

Hans Eysenck built on the work of Jung (and others) and attempted to identify the processes that might underlie these extraverted thoughts and behaviors. Initially, Eysenck, like Jung, thought that extraverts were defined by their impulsivity and their tendency to react to changing external circumstances. He posited that individual differences in this characteristic were

due to differential levels of excitation and inhibition. Specifically, Eysenck believed that extraverts were characterized by weak and slowly developing excitation, as well as strong and quickly developing inhibition. Thus, extraverts conditioned (or learned) slowly and got bored with repetitive tasks quickly. As a result of these underlying processes, extraverts were poorly socialized and craved changing conditions.

This initial model was found to be insufficient, and Eysenck quickly replaced it with a model based on individual differences in arousal. According to this revised model, extraverts were characterized by relatively low levels of arousal, whereas introverts were characterized by relatively high levels of arousal. Because too little or too much arousal impairs performance and is subjectively unpleasant, extraverts and introverts should seek out different types of environments. Extraverts should choose and enjoy highly arousing situations like parties or risky activities, whereas introverts should choose and enjoy more sedate activities likely spending time alone or interacting with a relatively small number of friends. Eysenck tested his model by examining extraverts' and introverts' performance in conditions that varied in their level of stimulation.

Soon after Eysenck proposed his arousal model, Jeffrey Gray developed a revised theory that was based on more detailed models of psychophysiological systems in the brain. This revised model shifted the underlying explanatory mechanism from individual differences in arousal to individual differences in sensitivity to reward. Gray believed that extraverts were highly sensitive to rewards, whereas introverts (particularly neurotic introverts) were highly sensitive to punishment. Thus, extraverts should learn better when given rewards for good performance, whereas introverts should learn better when punished for poor performance. Furthermore, extraverts were thought to be more strongly motivated to approach rewards than introverts. Recent research has focused on the role of dopamine in this reward-seeking behavior.

At the same time that Eysenck and Gray were developing their psychophysiological models of extraversion, other personality researchers were using factor-analytic techniques to determine whether a small number of basic traits could subsume and account for the many different characteristics that personality researchers had studied. For instance, researchers from the lexical hypothesis tradition posited that all important individual differences in personality would be encoded in language. Therefore, factor analyses of personality descriptors should be able to uncover any basic personality traits that exist. Other researchers set out to factor-analyze existing questionnaire items to see whether a small number of traits underlie the large number of characteristics that psychologists had studied in the past.

Over the years, these factor-analytic studies have consistently supported the idea that five broad dimensions (the Big Five) underlie much of the individual differences in personality. The first and largest factor that emerges from these analyses has been given a variety of labels including "confident self-expression," "surgency," "assertiveness," and "power." Yet even with these different names, most personality psychologists agree that this first factor usually resembles extraversion. Thus, extraversion is an important part of modern five-factor models of personality.

Correlates of Extraversion

Not surprisingly, extraversion has often been linked with social outcomes, including the amount of time that a person spends with others, the number of friends that a person has, and the extent to which a person enjoys social activities. Extraverts tend to score higher than introverts on all of these measures. However, because extraversion is a broad trait, it has also been linked with a variety of other outcomes. For instance, because of their greater impulsivity, extraverts are more likely than introverts to engage in risky behaviors (including some risky health behaviors). On the other hand, extraverts tend to be slightly more productive than introverts at work and are more likely to be involved in community activities, perhaps because of their social skills and social interest. Extraverts have also been shown to be happier than introverts and less susceptible to certain types of psychological disorders.

Richard E. Lucas

See also Arousal; Personality and Social Behavior; Personality Judgments, Accuracy of; Risk Taking; Social Psychophysiology

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EXTRINSIC MOTIVATION

Definition

Extrinsic motivation is the desire to do something because of the rewards and reinforcements it brings. In other words, one would probably not do the behavior if one didn't get something, later, for doing it. Extrinsic motivation is often contrasted with intrinsic motivation, in which behavior occurs because the experience of doing the behavior is reward enough, independently of any separable consequences that may follow.

Background and History

Extrinsic motivation is consistent with the tenets of operant behaviorism, which say that behavior occurs because it has been reinforced—that is, a person has received some tangible and separable reward, consequence, or compensation for doing that behavior in the past, and expects the same to occur in the present. Experimental research commencing in the 1970s showed that inducing extrinsic motivation by rewarding a person for doing a previously enjoyable activity can undermine the person's subsequent intrinsic motivation to do that activity, a finding that helped to weaken behaviorism's influence within psychology. Although inducing extrinsic motivation via rewards can have some positive performance effects (e.g., evoking greater effort, a greater quantity of output, and more rote learning), there is a risk because it can also lead to reduced enjoyment, creativity, mental flexibility, and conceptual learning.

Four Types of Extrinsic Motivation

In contemporary psychology, extrinsic motivation is an important feature of E. L. Deci and R. M. Ryan's self-determination theory. In the past 15 years, this theory has differentiated the extrinsic motivation concept, now specifying four different types of extrinsic motivation. External motivation exists when people act primarily to acquire anticipated rewards or to avoid anticipated punishments. Introjected motivation exists when people act to avoid guilt and self-recrimination. Identified motivation exists when people act to express a personally important value or belief. Integrated motivation exists when people act to express an important value or belief that is part of an elaborated network of principles and commitments. For example, people might recycle primarily because it is mandated by law (external motivation), because they would feel bad about themselves if they didn't (introjected motivation), because they believe in recycling (identified motivation), or because recycling is an expression of a consolidated conservation ethic and worldview (integrated motivation).

Notably, all four of these motivations are considered extrinsic because, in each case, behavior is undertaken not for its own sake but rather as a means to some other end. Still, the four motivations are said to vary on their degree of internalization, that is, the extent to which the end has been incorporated into the self. External motivations are not at all internalized, introjected motivations are partially internalized, identified motivations are mostly internalized, and integrated motivations are completely internalized. Importantly, this conceptualization entails that some extrinsic motivations (i.e., identified and integrated motivations) can be undertaken with a sense of autonomy and self-determination despite their non-enjoyable status. In this way self-determination theory acknowledges that "not all extrinsic motivations are problematic" while also addressing the societal benefits that occur when people internalize non-enjoyable but essential behaviors (such as voting, tax paying, diaper changing, etc.). In addition, this formulation allows the theory to address the social conditions that promote internalization—in particular, people are more likely to internalize extrinsic motivations when authorities are autonomy-supportive, that is, when they take subordinates' perspectives, provide choice, and provide a meaningful rationale when choice has to be limited. Finally, this formulation allows the theory to address important personality-developmental issues concerning maturity, role acceptance, and wisdom.

In sum, extrinsic incentives can certainly be powerful motivators of behavior. However, they should be used judiciously, because there are numerous ways in which they can backfire. Ideally, social contexts will help people to internalize their extrinsic motivations, so that the necessities of life can be well handled.

Kennon M. Sheldon

See also Intrinsic Motivation; Overjustification Effect; Self-Determination Theory

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EYEWITNESS TESTIMONY, ACCURACY OF

Every year in North America at least 75,000 people are identified from police lineups and subsequently prosecuted. There are hundreds of documented cases in which mistaken eyewitness identification has led to false imprisonment. Although it is impossible to know how often eyewitnesses make mistakes, it is known that mistakes are made. For example, of approximately 8,000 sexual assault cases in which DNA was tested by the U.S. Federal Bureau of Investigation, the suspect was exonerated approximately 25% of the time. In most of those cases, eyewitness identification was the primary way in which suspects were identified. Furthermore, of 140 cases in which people have been falsely imprisoned and subsequently exonerated, more than 80% involved mistaken eyewitness identification. Not surprisingly, improving the accuracy of eyewitness evidence has been a focus of legal psychologists for many years.

History of Research on Accuracy of Eyewitness Testimony

For many years, psychologists have been trying actively to understand how and why eyewitnesses make mistakes. Hugo Munsterburg published his groundbreaking volume on the topic, titled *On the Witness Stand,* in 1906. This book, based on basic memory research, detailed how eyewitnesses were prone to a number of errors and did not have the perfect memories the legal system often assumed. Although Munsterburg's book stimulated a great deal of discussion after it was published, it was largely dismissed by the legal system because it did not describe research that had been done specifically on eyewitnesses to crimes.

Contemporary Research

Hundreds of more recent studies have explored the accuracy of eyewitness identifications. The basic distinction these researchers have made is between *system variables,* factors the legal system can control, and *estimator variables,* factors the legal system cannot control. With system variables, one can construct the situation so that errors may be avoided. For example, a biased lineup instruction from the police (e.g., "The guy is in the lineup, all you have to do is pick him out") will lead to more eyewitness errors than will an unbiased instruction (e.g., "The criminal may or may not be present in the lineup").

An example of an estimator variable is the race of the criminal relative to the witness. Research has shown a consistent decrease in eyewitness accuracy if the witness and the suspect are of different races. Because this decrement is greater when the majority group member identifies a minority, relative to when a minority attempts to identify a majority group member, some researchers have suggested familiarity with the other group may be the cause of the increased error. Other researchers have suggested that different racial groups focus on different facial features. However, a definitive cause has thus far eluded researchers. Importantly, there is little the legal system can do to alleviate this problem. Thus, many researchers have argued it may be best to focus on system variables, as these are the factors that the legal system will be able to change.

Guidelines for Investigators

Although research in the field has been around for 35 years, it is only recently that practitioners have begun to embrace the findings and change their procedures to avoid errors. In 1999, the U.S. Department of Justice published a landmark set of recommendations on the treatment of eyewitness evidence, titled *Eyewitness Evidence: A Guide for Law Enforcement.* Then attorney general of the United States, Janet Reno called together the relevant stakeholder groups and asked them to come up with an empirically validated guide for law enforcement that the whole group could

support. The final group consisted of 33 members: 17 police officers, 4 district attorneys, 6 public defenders, and 6 eyewitness researchers. The *Guide,* jointly developed by the legal community and researchers, may represent the most comprehensive and potentially influential work of its type ever developed.

The purpose was to provide step-by-step procedures for law enforcement in dealing with eyewitnesses. These procedures were designed to minimize the risk of contaminating eyewitness evidence and reduce the likelihood of mistaken identifications. One set of procedures, based on the empirically validated "cognitive interview" technique, was designed to improve how police interviewed witnesses. Specifically, law enforcement officials were encouraged to establish rapport with the witnesses; encourage witnesses to give complete answers; ask only open-ended, nonleading questions; and caution people against guessing about what they had witnessed. As for the lineup process used by police, the *Guide* recommends the use of single suspect lineups (i.e., one suspect with all others being known innocent fillers); ensuring the use of unbiased lineup instructions; and avoiding post-identification suggestions and feedback to witnesses.

In addition, researchers in the group wanted the *Guide* to recommend the sequential lineup procedure (where photos are shown one at a time) as preferable to show-up (one photo) and simultaneous (where the photos are all shown at the same time) lineups. Sequential lineups have dramatically reduced error rates compared to other types of lineups. In addition, the researchers wanted to recommend double-blind procedures such that neither the officer conducting the lineup nor the witness is aware of the identity of the suspect, a procedure that further reduces false identifications. However, other members of the group were reluctant to include these two elements in the *Guide* as they might not be feasible for some police departments. Interestingly, many law enforcement agencies that have adopted the *Guide* report little difficulty implementing these procedures.

Thus, it is clear that the psychological research on eyewitness identification evidence has had a great deal to contribute to the legal system. Indeed, this area is an excellent example of how researchers and practitioners can work together to ensure a better outcome for society. However, though the eyewitness literature has provided a great deal of insight, there remain many questions that need to be answered.

Steven M. Smith

See also Applied Social Psychology; Expectancy Effects; Memory

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F

FACIAL EXPRESSION OF EMOTION

Definition

Human beings and some other animals have remarkable control over their facial muscles. *Facial expressions of emotion* are patterned movements of the muscles in the face that correspond with internal, affective states.

Importance

Communication is clearly important to effective social interaction. Whereas humans are able to communicate with one another verbally, they also are able to communicate nonverbally through body language and facial expressions. Facial expression of emotion is an important aspect of communication, and our bodies and brains seem wired to engage in such communication.

Two aspects of the nervous system highlight the biological readiness to engage in communication through facial expressions. First, human beings appear to have brain regions specifically dedicated to processing information about others' faces. Remarkably, these brain regions are active and developing even in human infants. This suggests that humans are born with a propensity and ability to attend to and process information about other human faces. Second, each human brain has two cortical regions containing a map of one's own body. The somatosensory cortex is the part of the brain that interprets which body part or parts are receiving tactile information at any given time. The

more sensitive a particular body part is, the more somatosensory cortex is devoted to it. The motor cortex is the brain region responsible for directing muscle commands to various parts of the body. The more control one has over a particular body part, the more motor cortex is dedicated to that body part. The face is disproportionately represented in both of these cortical regions. That is, there are greater portions of somatosensory and motor cortex dedicated to the face than one might expect based on the size of the face relative to the rest of the human body. All of this suggests that facial expression of emotions serves an important role and that our bodies are equipped to readily communicate through such expression.

Cultural Considerations

Considering the communicative importance of facial expression of emotion, one might speculate that expressions of emotion are universal across cultures—that is, that all human beings make similar facial expressions when experiencing similar emotions and that observers from all cultures can interpret what any given person is feeling based on his or her facial expression. Indeed, Charles Darwin first championed this idea, arguing that facial expressions are species specific rather than culture specific. There is considerable evidence for this point of view.

Human beings are able to recognize facial expressions of at least six emotions with remarkable accuracy: happiness, surprise, fear, anger, sadness, and disgust. Impressively, this has been demonstrated even

in cultures with no prior contact with Western societies (suggesting that the research participants did not learn these emotional expressions from various media). Furthermore, when members of preliterate cultures were asked to make various facial expressions, Americans were able to recognize which emotion they were expressing. Accuracy of judgments of facial expression is good when the target being judged is a still photograph of an expression. The accuracy of such judgments improves when people are allowed to judge the facial expression in action.

The universality of facial expressions of emotion (and the interpretation of those expressions) suggests that they are innate rather than learned behaviors. Supporting this conclusion, people with congenital blindness produce similar facial expressions to people with sight. Furthermore, facial expressions of certain primates appear very similar to those of human beings. This evidence supports Darwin's contention that facial expressions are evolved behaviors that serve an important communicative function.

Despite these cultural similarities, there also are differences in facial expression of emotion across cultures. First, people are approximately 10% more accurate at interpreting facial expressions of members of their own cultural group than they are of interpreting those from members of different cultural groups. However, it is important to remember that people are still quite accurate when judging members of other cultural groups. Second, different cultures and subgroups within cultures have different rules about the appropriateness of various expressions of emotion. For example, Americans tend to display anger much more readily than do Japanese people. People might therefore express emotion differentially across cultures. Third, recent research has identified an interesting cultural difference in how people interpret the emotional expressions of others. In this research, participants viewed a picture of a social scene and were asked to identify what emotion a particular person in the photograph was experiencing. Participants from Western countries used only the target person's facial expression in making these judgments. Participants from Japan were more likely to use the entire context (i.e., the facial expressions of others in the scene) when making these judgments. For Americans, a smile always indicated happiness. For Japanese participants, a smile sometimes indicated happiness and other times indicated a smirk.

Expression Versus Experience of Emotion

Researchers have debated the role of facial expressions of emotion for quite some time. Some argue that facial expression is a part of emotional experience, whereas others argue that facial expression simply reflects an internal state. Presently, there is no evidence to determine which of these perspectives is correct. One thing that is clear, however, is that facial expressions and emotion are strongly related to one another. Research has demonstrated that facial expressions can actually create emotional experience. Studies have demonstrated this by unobtrusively causing people to display a smile or a frown (by pronouncing different phonemes or by holding a pencil in the mouth) and then looking at the effects on mood. Smiling induced more pleasant moods, and frowning induced more negative moods. Facial expressions may cause emotion by creating physiological changes in the body. It is also possible that they cause emotion through a self-perception process in which people assume they must be happy (or sad) because they are smiling (or frowning). Of course, in the real world, people's emotions are typically caused by factors besides their facial expressions. That expressions and experience of emotion are so closely related is an intriguing finding, however.

Steven M. Graham

See also Cultural Differences; Culture; Emotion; Nonverbal Cues and Communication; Self-Perception Theory; Sociobiology

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FACIAL-FEEDBACK HYPOTHESIS

The facial-feedback hypothesis states that the contractions of the facial muscles may not only communicate what a person feels to others but also to the person him- or herself. In other words, facial expressions are believed to have a direct influence on the experience of affect. This hypothesis goes back to Charles Darwin,

who wrote that the expression of an emotion intensifies it, whereas its repression softens it. A second origin of the facial-feedback hypothesis is William James's theory of emotion, which states that the bodily changes follow the perception of an exciting fact and that the feeling of these bodily changes is the emotion.

Although Darwin and James differ in their view of the role of the eliciting stimulus, they agree that the behavior that accompanies an emotion exerts a causal influence on its experience. In particular, the skeletal muscles were identified as important contributors. While Darwin has assigned the facial muscles a special role as means of expression and has meticulously described their evolutionary significance (e.g., frowning), James's account is based on more global units of behavior (e.g., running away).

To test the causal influence of facial expressions on the experience of affect, three different procedures have been employed. In some experiments, participants were explicitly instructed to adopt an emotionally relevant facial expression. In another set of studies, the emotional meaning of the expression was not mentioned. Instead, the experimenter would point at the muscles that were supposed to be contracted. In yet a third method, facial expressions were induced by a procedure that required the contraction of specific muscles for a purpose that was void of any emotional meaning. For example, participants were told to hold a pen with either their teeth or their protruded lips to either induce or inhibit a smiling expression by extracting the zygomaticus muscle (one of the main muscles involved in making the mouth into a smile) or its antagonist. In a related study, golf tees were fixed on people's foreheads, which they had to move together by contracting the corrugator (frowning) muscle.

All procedures were successful in causing affective consequences either in people's self-reported mood, in specific emotions, or in the evaluation of emotional stimuli, like cartoons. However, the three facial-induction methods afford different theoretical interpretations. Specifically, the more likely it is that the induction of the facial expression is linked to the recognition of its emotional meaning, the more likely it is that people may infer their affective state on the basis of their expression. For example, they may draw the inference that if they smile, they must be amused. This mechanism is an extension of Bem's self-perception theory, which assumes that if internal cues are weak or ambiguous, people infer their attitudes from their behavior. Similarly, they may infer their emotional states from what they do. However, the fact that affective consequences can be obtained from facial expressions even if their emotional meaning is disguised suggests that more direct mechanisms may be operating as well.

While self-perception theory may account for the cases in which the meaning of the expressions is apparent, other models are necessary to explain the direct impact of the facial action. On a physiological level, it has been argued that facial expressions may regulate the volume and particularly the temperature of the blood that flows to the brain and therefore influence cerebral processes. It was suggested that an emotional event may cause peripheral muscular, glandular, or vascular action that changes the emotional experience. Another explanation that is based on evidence from the neurosciences comes from a study that identifies specific cortical activities that are connected to different facial expressions. Specifically, it was found that the facial expression of emotions that are linked to approach (e.g., joy) were associated with greater left frontal brain activity while avoidance emotions (e.g., fear and anger) were linked with greater right frontal activation.

From a more psychological perspective, the effects of facial feedback can be understood as the result of a *motivational orientation.* As an example, one theory assumes that behaviors that are involved in approach facilitate the processing of positive information, whereas behaviors that are involved in avoidance facilitate the processing of negative information. Applied to facial expressions, this implies that a smiling expression will facilitate the processing of a cartoon and therefore intensify its affective impact. This also explains why, in many studies, the mere adoption of an expression has by itself had no emotional effect.

The importance of facial feedback has been recognized in domains that go beyond the emotional experiences. For example, it has been found that positive or negative sentences are understood more easily if, outside of their awareness, people were led to adopt a facial expression that corresponded to the valence of the sentence. In one study, research participants had to hold a pen in the smiling pose while watching photos of either White or Black people. As a consequence, implicit racial bias was reduced. Also, the importance of facial feedback has been recognized as a mediator of empathy and prosocial behavior.

Finally, it should be noted that certain facial expressions require effort to be maintained, which may influence the experienced fluency in information processing. The experience of fluency was found to serve as a basis for other feelings and judgments, like those of familiarity and fame. For example, it has been found that judgments of fame are often based on the feeling of familiarity that is elicited by a name. More recently, it was demonstrated that having participants furrow the brow while reading the names reduced the fame that was associated with the names. This was presumably the case because the experienced effort undermined the feelings of familiarity and, as a consequence, the judged fame.

Fritz Strack

See also Approach–Avoidance Conflict; Emotion; Self-Perception Theory

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FALSE CONSCIOUSNESS

Definition

False consciousness is defined as the holding of false or inaccurate beliefs that are contrary to one's objective social interests and that contribute to the maintenance of oppression or unjust inequality in society. According to this usage, the disadvantaged (e.g., poor people, the working class, women, and oppressed minorities) possess false consciousness when they genuinely come to believe that they are inferior, deserving of their subordinate role in the social hierarchy, or entirely incapable of taking action against the causes of their misery. Members of advantaged groups are said to possess false consciousness when they genuinely come to believe that they are superior, deserving of their privileged role in the hierarchy, or that what is good for them is good for everyone. Extensive sociological and psychological evidence reveals that people often do hold seemingly false beliefs that justify and perpetuate their own (and others') misfortune and oppression.

Historical Background

The concept of false consciousness originates with the early writings of Karl Marx, although it was his collaborator, Friedrich Engels, who coined the term. Marx emphasized the illusory character of ideology and the way in which ideology functions to obscure and to justify oppression and dominance in capitalist societies. Through institutional control over religion, education, culture, the media, and political and economic institutions, dominant elites in society were seen as capable of spreading ideas and values that served their own narrow interests and perpetuated their hegemony. Thus, according to Marx and Engels, the political consciousness of most members of the working class was theorized to be "false," in the sense that it reflected the dominant group's biased interests rather than their own. At the same time, Marx believed optimistically that the oppressed would eventually recognize the falseness of prevailing ideas and take action against the sources of their oppression.

Social Psychological Research on False Consciousness

Contemporary scholars, influenced by Marxian ideas in sociology, have suggested that Marx may have underestimated the extent to which psychological processes play a role in leading people to accept, rationalize, and adapt to unjust circumstances. An extensive body of research in social psychology has demonstrated that members of disadvantaged (as well as advantaged) groups often engage in defensive bolstering of the status quo (i.e., system justification). In so doing, they appear to actively imbue the existing social order with legitimacy and stability. At least six types of false consciousness beliefs have been identified by scholars and researchers:

1. Denial and failure to perceive injustice and disadvantage

2. Fatalism, or the belief that protest is futile and social change is impossible to achieve

3. Rationalization of unequal distributions of social roles and divisions of labor in society with the use of stereotypes and other social judgments

4. The tendency to falsely blame victims for their own misfortune or to otherwise deflect blame for human suffering away from the social system itself

5. Identification with and idealization of "the oppressor," or the tendency to harbor preferences in favor of members of dominant groups

6. Active resistance to social change and the desire to stick with the status quo even when new alternatives would produce better outcomes

John T. Jost
Ido Liviatan

See also Ideology; Just-World Hypothesis; System Justification

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FALSE CONSENSUS EFFECT

Definition

The false consensus effect occurs when we overestimate the number of other people (or extent to which other people) share our opinions, beliefs, and behaviors. Thus, sometimes individuals tend to believe that others are more similar to them than is actually the case. For example, if I enjoy eating chocolate ice cream cones, I will tend to overestimate the percentage of other people like me who also enjoy eating chocolate ice cream cones relative to the percentage that do not.

This effect is likely to occur most often when considering opinions, beliefs, and behaviors that are important to us. Thus, consider another example: If you believe a particular favorite television program is funny, you will tend to overestimate the number of other people like you who also believe that program is funny relative to those who do not.

Background and Evidence

The false consensus effect was first described by social psychologists in 1977. In one of the first research projects demonstrating the effect, researchers approached college students as they walked across campus and asked the students to advertise a restaurant by wearing a large sign that said, "Eat at Joe's." As you might expect, some of the students agreed to wear the sign, while others did not. All the college students were later asked how many other students they estimated would make the same decision they did (either to wear the sign or not to wear the sign).

The false consensus effect was demonstrated when two results occurred: First, the students who agreed to wear the sign reported they believed that more than half of the other students on campus (62%) would also agree to wear the sign. However, the students who did not agree to wear the sign reported they believed that more than half of the other students on campus (67%) also would not agree to wear the sign. Thus, both groups of students, those who agreed and those who disagreed to wear the sign, overestimated how many other students would behave just as they did.

Why It Occurs

One reason why this effect is likely to occur is that the people with which we regularly come into contact (such as our friends or classmates) are often like us in some ways. Thus, sometimes we use our knowledge of those similarities to make judgments or estimations of additional ways in which our friends, classmates, or other people, might be similar to us. Not to mention the fact that it is often easier for us to remember instances in which other people agreed with us about something rather than disagreed with us.

It is also possible that our believing that other people are similar to us can serve to boost our self-esteem. So assuming that others share our opinions, beliefs, and behaviors helps us feel good about ourselves and our opinions, beliefs, and behaviors.

Implications

This effect demonstrates a type of bias to which individuals fall prey in their typical thinking, thus often referred to as a type of cognitive bias. Unfortunately we fall prey to a number of such biases. This is problematic when we consider how often in our daily lives we make judgments about others, either privately within our own thoughts or in conversations with others. Because such judgments are likely to influence additional thoughts about these people, as well as our behavior toward them, it could easily be the case that we have beliefs about others that are incorrect and then possibly behave toward them in ways that are inappropriate.

Tricia J. Yurak

See also Attribution Theory; Availability Heuristic

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FALSE UNIQUENESS BIAS

Definition

False uniqueness bias refers to the tendency for people to underestimate the proportion of peers who share their desirable attributes and behaviors and to overestimate the proportion who share their undesirable attributes. Typically, this bias has been assessed by collecting estimates that people make about the proportion of peers who have positive or negative traits/behaviors with the actual proportions who report these traits and behaviors. False distinctiveness is indexed by comparing the percentage of peers whom participants estimate act the same as they do with the actual sample statistic. Several studies have shown that people underestimate the proportion who also behave in a socially desirable way—an indication of false uniqueness. For example, persons who regularly engage in physical activity tend to underestimate the actual proportion of other people who exercise. For undesirable attributes and behaviors (such as smoking cigarettes), people overestimate the proportion of peers who behave the same way they do.

Explanation

This bias is thought to be the result of a self-enhancement or self-protective motivation: By underestimating the number of other people who behave desirably, the person can feel distinctively positive. On the other hand, perceiving one's undesirable behaviors or attributes as more common than they actually are can create a feeling of "safety in numbers," and help to justify irresponsible practices.

Such self-serving biased estimates presumably are the product of constructive social comparison, that is, projections made up in the head. Although Leon Festinger's classic social comparison theory focused on the effects of the actual relative standing of others on self-evaluations of abilities and opinions, people also cognitively construct standards in self-serving ways. George R. Goethals found, however, that people were less self-serving and more realistic in their estimates when the attribute was well defined. Thus, people are less likely to think that they are smarter than they are better in a moral sense. This is because it is easier to distort the norm for such things as being helpful or fair; intelligence has more reality constraints.

Relation to Other Social Perceptual Biases

False uniqueness can be distinguished from two other biases concerning social norms. False consensus refers to the tendency to attribute one's own opinion or behavior to others. In this case, the estimates of behavioral subscribers are compared to the estimates of the same

behavior by nonprescribers. For example, marijuana smokers report more people smoke marijuana than do nonsmokers. Unlike false uniqueness, false consensus is not assessed with respect to the actual consensus. Another difference is that in false consensus, the self-serving bias always takes the form of an overestimation of one's own behavior. But when non–marijuana smokers exaggerate the use of marijuana (compared to actual reports), they are exhibiting false uniqueness.

Another related bias is pluralistic ignorance whereby people erroneously think their private opinions and behaviors are different from everybody else's, even though everyone's public behavior seems to be same. For example, people who lived in a small religious community, which condemned card playing and alcohol, assumed that everyone concurred because no one publicly engaged or spoke in favor of these practices (for fear of embarrassment or social censure). In actuality, quite a few people in this community behaved in these ways when their curtains were drawn. Unlike the other biases which seem to be self-serving, pluralistic ignorance emphasizes the individual's distinctiveness and even alienation from others. It appears to persist because people are reluctant to let down their public façade.

Implications

False uniqueness permits the individual to think he or she has exceptional positive traits and behaves better than most other people. This perception may support general feelings of self-worth, but it also might contribute to overconfidence and lead to negative impressions of peers.

Jerry Suls

See also False Consensus Effect; Pluralistic Ignorance; Social Comparison

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Falsification

Definition

One cannot prove whether a theory or hypothesis is true. One can only prove that it is false, a process called falsification. Falsification is a tool that distinguishes scientific social psychology from folk social psychology, which does not use the process of falsification.

History and Theory

From the beginning of the 20th century, various philosophers and scientists tried to define the best way to do science, mostly dealing with such questions as "How can you move from observations to laws?" or "How can you choose a universal theory from any number of possible theories?" Here, the philosopher Karl Popper provided the idea that no real-world theory can be considered scientific if it does not admit the possibility of a contrary case. This means that it has to be possible to make an observation that can falsify the theory. For example, the statement "all swans are white" would be falsified by observing a black swan (or admitting the possibility of a black swan somewhere in existence).

A scientific theory consists of several statements that are linked together in a logical manner. If the statements are proven false, then it becomes unreasonable to support the theory any longer. Therefore, of the old (falsified) theory is replaced by a newer (unfalsified) theory. Some researchers try to avoid the falsification of their theory by adding further statements, which account for the anomaly.

For Popper, the falsifiability of a theory is a criterion to distinguish science from nonscience. Consequently,

researchers can never finally prove that their scientific theories are true; they can only confirm or disprove them. Each time a theory survives an attempt to falsify it, it becomes a more believable theory. To advance the science, one has to replace the falsified theories with new theories. These new theories should account for the phenomena previously falsified.

Criticisms and Modern Application in Social Sciences

Several philosophers and various researchers have criticized the falsification principle. In social sciences, where tests are very sensitive, many observations may be argued to be fallible and wrong. Hence, it is easy to make an argument against the falsification of a theory, by referring to observational errors.

In contrast to Popper, some philosophers see the development of additional statements that defend the old theory as a natural process. Other scholars later reformulated the falsification principle. Some argued that the shift from one theory to another could not be performed due to falsification of the many statements of a theory, but that a whole change of the paradigm was needed among the scientists, who share ideas about the same theory.

Falsification has been widely used in the social psychology. Current social science is multiparadigmatic. Generating several hypotheses on the same phenomenon is seen as additional help for researchers to overcome the subjective resistance of rejecting their theory.

Igor Grossmann
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See also History of Social Psychology; Logical Positivism; Research Methods

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FAST AND FRUGAL HEURISTICS

Definition

Fast and frugal heuristics, as defined by Gerd Gigerenzer, Peter M. Todd, and the ABC Research Group, are simple, task-specific decision strategies that are part of a decision maker's repertoire of cognitive strategies for solving judgment and decision tasks. Fast and frugal heuristics are simple to execute because they limit information search and do not involve much computation. Unlike many decision-making models in the behavioral sciences, models of fast and frugal heuristics describe not only the outcome of the decision-making process but also the process itself: Fast and frugal heuristics comprise simple building blocks that specify how information is searched for (search rule), when information search will be stopped (stopping rule), and how the processed information is integrated into a decision (decision rule).

The term *heuristic* is of Greek origin meaning "to find out" or "to discover." This notion of heuristics differs from approaches that define heuristics as rules of thumb or as irrational shortcuts that result in decision biases. Fast and frugal heuristics yield decisions that are ecologically rational rather than logically consistent.

Examples

A decision maker's repertoire of cognitive strategies includes a collection of simple heuristics. As a hammer is ideal for hammering in nails but useless for sawing a board, so the heuristics are designed to solve particular tasks. For example, there are specific heuristics for choice tasks, estimation tasks, and categorization tasks. Following are two prominent examples of fast and frugal heuristics: the recognition heuristic (RH), which exploits a lack of knowledge, and the Take the Best heuristic (TTB), which deliberately ignores information. Both heuristics can be applied to choice tasks and to situations in which a decision maker has to infer which of two objects has a higher value on a quantitative criterion. Examples include inferring which of two stocks will perform better in the future, which of two cars is more reliable, or which of two job applicants is better suited for an open position.

The Recognition Heuristic

The RH has been studied extensively with the often-used inference problem of deciding which of two cities is more populated. In 2002, Daniel G. Goldstein and Gigerenzer asked students in the United States and Germany the following question: Which city has more inhabitants, San Antonio or San Diego? Given the differences in background knowledge about American cities, one might expect that American students would do much better on this task than German students. In fact, most of the German students did not even know that San Antonio is an American city. How did the two groups perform on this task? Astonishingly, Goldstein and Gigerenzer found the opposite of what one would expect: Whereas about two thirds of the American students correctly inferred that San Diego has more inhabitants than San Antonio, all of the German students got this question correct. How could this be? The German students who had never heard of San Antonio had an advantage. Their lack of recognition enabled them to use the RH, which, in general, says, "If one of two objects is recognized and the other is not, then infer that the recognized object has the higher value with respect to the criterion." The American students could not use the RH because they had heard of both cities; they knew too much.

The RH is a powerful tool. It allows for fast decisions and yields reasonable decisions in many environments because recognition is often systematic rather than random. Domains in which the RH works well include sizes of cities, performances of tennis players in major tournaments, or productivity of authors. Conversely, the RH does not work well when, for instance, cities have to be compared with respect to their mayor's age or their altitude above sea level.

The Take the Best Heuristic

If the RH is not applicable because a decision maker recognizes both objects in a choice task or because recognition is not correlated with the criterion, a heuristic that considers cue information can be applied. The TTB is a cue-based heuristic that does not require any information integration to make an inference but bases decisions on single cues. For instance, when inferring the size of a city, the decision maker could consider cues such as whether a city has an airport, an opera house, or a major exposition site. TTB's search rule specifies searching for the cues in the order of their validity. The validity of a cue is defined as the probability of making a correct inference under the condition that the cue discriminates; that is, one object has a positive and the other object a negative cue value. According to TTB's stopping rule, the information search is stopped as soon as a cue is found that discriminates, so that if the most-valid cue discriminates, only one single cue is considered. Otherwise the next-most-valid cue will be considered. Finally, according to TTB's decision rule, TTB infers that the object that is favored by the cue that stopped the information search has the larger criterion value. If no discriminating cue is found, TTB makes a random guess.

Empirical Evidence

Studies on fast and frugal heuristics include (a) the use of analytical methods and simulation studies to explore when and why heuristics perform well and (b) experimental and observational studies to explore whether and when people actually use fast and frugal heuristics. Systematic comparisons with standard benchmark models such as Bayesian or regression models have revealed that the performance of fast and frugal heuristics depends on the structure of the information environment (e.g., the distribution of cue validities, the correlation among cues). In many environments, fast and frugal heuristics can perform astonishingly well—especially in generalizing, that is, when making predictions for new cases that have not been encountered before. Empirical studies indicate that humans use fast and frugal heuristics especially when under time pressure, when information search is costly, or when information has to be retrieved from memory. Recent studies have investigated how people adapt to different environments by learning. In 2006, Jörg Rieskamp and Philipp E. Otto found that people apparently learn to select the heuristic that performs best in a particular environment. Moreover, Torsten Reimer and Konstantinos Katsikopoulos found that people also apply fast and frugal heuristics when making inferences in groups.

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Jörg Rieskamp

See also Availability Heuristic; Decision Making; Ecological Rationality; Heuristic Processing; Representativeness Heuristic

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FEAR APPEALS

Definition

Fear appeals, or fear-arousing communications, are communications that emphasize negative consequences of specific behaviors to motivate behavior change. Fear-arousing communications usually consist of two parts, namely, a fear appeal that stresses the severity of, and personal vulnerability to, a threat and a recommended protective action capable of reducing or eliminating the threat.

Context and Importance

Fear appeals are widely used in health promotion. They come in many guises, from the obligatory health warnings on cigarette packs to essays about the deleterious effects of obesity. With an estimated 40% of premature mortality from the 10 leading causes of death in the United States due to modifiable lifestyle factors, the use of fear appeals in health promotion has become an accepted means of improving the health of populations. The basic assumption guiding the use of fear appeals is that the more one succeeds in making individuals concerned about the negative consequences of health-impairing actions, the greater will be the likelihood of behavior change. In line with this principle, several countries are now considering adding gory pictures to the written warnings on cigarette packs.

Theories

Over the years, several theories have been proposed to explain how fear appeals work. According to early drive-reduction models, exposure to threatening information arouses fear, which motivates individuals to reduce it. Greater fear will result in more persuasion, but only if the recommended action is perceived effective in avoiding the danger. Because of weak support for this theory, later models abandoned the assumption that the intensity of the fear determines the acceptance of (effective) action recommendations. According to Leventhal's parallel response model, the emotional response to the risk information is considered largely irrelevant for the actions taken to reduce the risk. Cognitive appraisal of the risk information stimulates two parallel responses, namely, *danger control* and *fear control.* Danger control is a problem-solving process, which involves the choice of actions capable of averting the danger. In contrast, fear control entails an individual's attempt to control the unpleasant affect evoked by fear arousal. Since fear control might often use denial strategies to reduce fear, it can interfere with danger control.

Protection motivation theory is an important attempt to identify the determinants of danger control. This theory differentiates between threat appraisal and coping appraisal. *Threat appraisal* is an evaluation of personal vulnerability to, and severity of, a threat and of the rewards associated with health-impairing behavior. *Coping appraisal* involves evaluation of response efficacy, self-efficacy, and of the costs of health-enhancing behavior. These two forms of appraisal are assumed to interact with one another: The motivation to protect oneself will be strongest when the threat is appraised as serious, and coping is appraised as effective. In her extended parallel response model, Witte suggested that when coping is appraised as ineffective, individuals will mainly engage in fear control.

The stage model of processing of fear-arousing communications is the most recent fear-appeal theory. In line with earlier theories, the stage model differentiates between threat appraisal and coping appraisal. If individuals feel vulnerable to a severe health risk, this threatens their belief that they are healthy, arouses defense motivation, and stimulates the motivation to carefully examine the presented information. Defense motivation results in biased processing of information. In appraising the threat, defense-motivated individuals will attempt to minimize it. If this strategy proves unsuccessful, because the threat seems real, individuals will accept that they are at risk. In this case, the processing of the action recommendation will be biased, but in a positive direction. They will now be motivated to find the recommended action

effective, because then they can feel safe. Defense motivation will lead to a positive bias in the processing of an action recommendation and consequently heighten the motivation to accept it. Furthermore, while severity of a threat will improve an individual's evaluation of the protective action, individuals are unlikely to adopt such an action, unless they feel personally vulnerable.

Evidence

Empirical research on fear appeals has resulted in a body of evidence that high fear messages are generally more effective than low fear messages in changing individuals' attitudes, intentions, and behavior. More specifically, it has been found that all main components of fear-arousing communications have a positive effect on measures of persuasion: Higher levels of severity of a threat, perceived vulnerability to a threat, response efficacy, and self-efficacy of a recommendation all contribute to changes in attitudes, intentions or behavior. However, whereas most factors affect individuals' attitudes, research shows that the most important factor in changing individuals' intentions and actual behavior is perceived vulnerability: Individuals adopt recommended actions mainly when they feel vulnerable to a health risk.

Implications

The emphasis of health education has frequently been on the severity of negative health consequences and the effectiveness of the recommended action. However, although these factors affect attitudes, they fail to have much impact on behavior. Thus, however severe a health risk and however effective the recommended action, unless one persuades individuals that they are vulnerable, they are unlikely to take protective action. Health education campaigns should stress an individual's vulnerability to a health risk and not merely vividly depict the severity of the risk. In stressing personal vulnerability to negative consequences of certain behaviors, fear-arousing communications can be an effective way of changing individuals' health-impairing behaviors.

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See also Health Psychology; Persuasion

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FEEDBACK LOOP

The feedback loop concept has several sources, and there are several different ways to think about it. One way is to think about the meaning of cause and effect. People often think about variable A causing outcome B to happen, and that being the end of it—a straight line from cause to effect. The logic behind feedback processes is that that picture often is too simple. Sometimes variable A causes outcome B, but outcome B then turns around and exerts an influence (directly or indirectly) on variable A, the original cause. This, in turn, causes variable A to make something else happen with respect to outcome B. In this circumstance, there is not a straight line of cause and effect, but a closed loop. Causality occurs all around the loop.

Another way to approach the concept is to think about so-called self-regulating systems and how they work. A self-regulating system tries to keep some condition fixed, even in the face of various kinds of disturbances from outside. For example, a heating and cooling system with a thermostat acts to keep the temperature of a house confined to a narrow range, corresponding to the thermostat's setting. How does it do that? The thermostat is a device that senses current air temperature and compares it to a set point. If air temperature gets noticeably higher than the set point (deviates from it far enough), the thermostat sends a message to activate the air conditioner part of the system. That's not the end, though. The thermostat keeps on checking current air temperature, and when the temperature returns to the set point, it allows the air

conditioner to turn off. In a system that is sophisticated enough, deviations in either direction trigger the appropriate response (if the air temperature falls too low, the message goes not to the air conditioner but to the heater).

The component elements of this system are illustrated in Figure 1. There is some sort of sensing or perception of current conditions (an input), some sort of reference value or set point, some way of comparing the perception to the reference point, and some way of making things happen (an output). As suggested at the beginning of this discussion, what happens in the output can have an effect on current conditions, which causes the perception of current conditions to change. This in turn creates a ripple of causal influence to run through the system again—and again and again, each time the output changes the current conditions.

Of course, the output isn't the only thing that can change current conditions. Unexpected disturbances of various sorts can also change the existing state of affairs. For example, weather outside will influence the temperature of the air in the room; so will filling the room up with people for a party. Both of these disturbances influence the current conditions perceived by the thermostat and thus the behavior of the system.

Engineers use this sort of thinking to design mechanical and electronic systems, but the same sort of reasoning can be applied easily to self-regulation in a living system. As a simple extension of the example just used, if you are outside on a very warm day, your body heats up. The temperature regulator in your body detects that you are getting warmer than normal body temperature and calls for perspiration, which cools you back down. If a cold breeze chills you, the temperature regulator calls for your body to shiver, which generates heat. This process is an example of what is called *homeostatic self-regulation*. Alternatively, in either of these cases, a more elaborate output could occur, which involves bigger chunks of behavior than sweating and shivering. That is, if you get too warm, you might take off your jacket or even go indoors where the air conditioner is on. If you get too cold, you might put your jacket on or go someplace where there's a toasty fireplace.

Now let's take this reasoning a couple of steps further. One step is to make the reference point be a moving target (e.g., your home's temperature control system might be programmed to raise the set point at night and lower it during the day). Another step is to make the whole thing be about behavior. Imagine that people's goals for what they want to do today (or this week, or in their lives in general) are reference values for feedback loops. Put these steps together, and you get a person who looks at existing conditions, compares them to the desired goal, and takes steps to make the existing conditions come into closer conformity to the goal, even as the goal keeps changing and evolving. For example, your goal is to buy a present for a friend, so you have to leave your house (one goal within the broader one) and get into your car and drive to a store (another goal) and find what you want (another one) and pay for it and bring it home. The person keeps making changes to bring the experienced condition into conformity with the next step in the path needed to reach the overall goal. It could be a concrete goal, such as seeking out and buying a present, or a more abstract goal, such as forming and maintaining a close relationship with someone. In either case, the same basic processes are involved. Some believe that these are the processes that underlie purposive behavior.

A good deal of complexity is added by the fact that people are often interacting with other people, all of
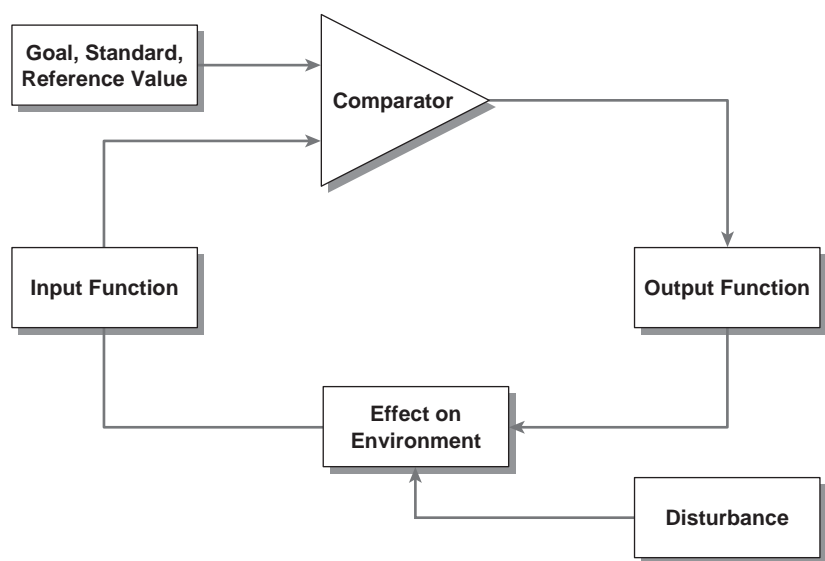
Figure 1   Schematic Depiction of a Feedback Loop

whom have goals. Sometimes acting to make the conditions you experience closer to what you want entails having other people also experience a match between what *they* see and what *they* want. Sometimes you discover that it's hard to make existing conditions match what you want, because doing that creates problems for other people's goals. A lot of events can be understood in terms of what would need to happen to make various people's perceptions match their goals.

One more twist that can make everything more difficult: Although it is easiest to understand the feedback concept from looking at a system that has all the elements shown in Figure 1, strictly speaking it isn't necessary for all those elements to be there. In particular, it is possible for loops to be created in which no set point is explicitly represented. Something about the overall circumstances causes changes in the output to shift back and forth in such a way that the input remains relatively stable (or is held within limits). Typically this involves a response from the environment that is somehow coordinated with the output, so that a particular output creates circumstances that cause further output to be less necessary, and a reduction in output causes circumstances to shift back so that further output is necessary again. With respect to the most recent behavioral example, sometimes a person has a goal to make something happen, and sometimes that very thing happens predictably with no goal being involved.

More concretely, you may set a goal for yourself of studying about 2 hours per evening. Alternatively, you may be nervous about your courses if you aren't studying in the evening and bored after you've studied for a while, with the result that you tend to study for about 2 hours each evening. In the latter case, there would be no goal specifying how much to study. This second case is sometimes referred to with the phrase *self-organization*. It can be very hard to tell which case exists at any given time.

Another commonly used example of a self-organizing feedback loop (which also illustrates the fact that the feedback concept can be applied at various levels of abstraction) is an ecosystem made up of (for instance) an island colony of rabbits and a food source. The size of the food source controls the size of the colony by determining how many animals can live on it. The population converges on the value that is the system's carrying capacity. If the population gets too large, some animals starve and the population falls. If the population falls below that value, there is surplus food and the population rises. There is no explicit reference value for population size, though, and this loop does not have the goal of stabilizing the size of the colony. Stabilizing the size of the colony is simply a consequence of the relations among the processes that form the loop. In cases such as this, it is reasonable to refer to the *function* of the loop, but not to the *purpose* of the loop.

Feedback loops are not about particular kinds of social psychological phenomena. But they can be seen as embedded in many kinds of social psychological phenomena. Easy examples are conformity, dissonance reduction, and social comparison. Feedback processes may be the underlying elements in far more phenomena than most people realize.

Charles S. Carver

See also Goals; Self-Regulation

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FIGHT-OR-FLIGHT RESPONSE

Definition

In 1929, Walter Cannon proposed ways in which the human body and nervous system, and those of other species, evolved to cope with immediate threats to their well-being and safety. These threats elicit strong emotions and prepare the body (e.g., increase in blood pressure, release of sugar for use by muscles) for a vigorous and immediate behavioral response to the threat—that is, either fighting or fleeing. The emotions Cannon focused on were fear and anger or rage. The emotion of anger suppresses fear, and the accompanying physiological changes prepare the individual for combat. The behavioral engagement in physical fighting was largely discussed as male-on-male combat, either in the context of war, a one-on-one contest, or during sporting events. Fear often results in similar physiological changes but, in contrast to anger, prepares the individual to avoid potential injury, often by fleeing the threatening situation.

Analysis

The basic features of Cannon's argument appear to be correct, although some of the emotional and physical effects of threats are subtler and can be longer lasting than originally proposed. Moreover, his proposal was largely focused on males and fighting, but nonetheless other scientists and the general public often extended the fight-or-flight response to include females. In 2000, S. E. Taylor and her colleagues proposed that women, and females of some other species, are more likely to behaviorally respond to threats by tending to children and befriending other women rather than by fighting or fleeing. Of course, women will fight or flee under some conditions, but they may not have the same evolved fight-or-flight response as men. Tending to children is based on the finding that parenting is more common among females than males in most species, including humans. Befriending is focused on maintaining a network of social support to help with tending when threatened and to provide a more general source of support to cope with mild day-to-day stressors. Taylor et al.'s tending-and-befriending proposal adds an important dimension to Cannon's 1929 work and highlights differences in the ways in which women and men often respond to threatening or stressful situations. Of course, men often tend to children and can develop a network of friends that provide support in threatening situations, but men may not have the same evolved tend-and-befriend response as women, as David C. Geary and Mark Flinn noted in 2002.

David C. Geary

See also Coping; Stress and Coping; Tend-and-Befriend Response

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FOCALISM

Definition

Focalism (sometimes called the focusing illusion) is the tendency for people to give too much weight to one particular piece of information when making judgments and predictions. By focusing too much on one thing (the focal event or hypothesis), people tend to neglect other important considerations and end up making inaccurate judgments as a result.

Evidence

Focalism has been shown to bias judgments in two different domains.

Affective Forecasting

The first domain is that of affective forecasting, or the prediction of future feelings and emotions. People tend to overestimate the impact of positive and negative events on their future happiness, a phenomenon known as impact bias. One cause of the impact bias is a tendency to focus too narrowly on the positive or negative event itself and neglect the extent to which other, nonfocal events will also affect future thought and emotion. When predicting how they will feel several days after their team wins an important game, for example, college students focus too much on the prospect of victory itself, and neglect to consider all of the other events—a quarrel with a friend, that upcoming organic chemistry test, or a visit from their parents—that will occupy their attention in the days following the game.

Focalism in affective forecasts also explains why both Californians and Midwesterners incorrectly believe that people living in California are happier in general. When comparing life in California to life in the Midwest, people focus too much on one obvious difference between the two regions—climate—and fail to consider all of the other, more important ways in which living in the Midwest is comparable to, or even better than, living in California. It is true that Californians are more satisfied with their own region's climate than are Midwesterners. But climate is not all that important in determining how happy people will be with their lives in general. Having fulfilling

relationships, rewarding work, and a comfortable standard of living are much more important determinants of well-being.

Some researchers have proposed that focalism may also help explain why people tend to underestimate the happiness of individuals living with disabilities such as paraplegia. According to this idea, when imagining life as a paraplegic, people focus too much on the ways in which paraplegia would change their lives for the worse and neglect to consider all of the positive aspects of their lives that would stay the same. Several investigations have failed to find support for this hypothesis, however. It seems instead that people underestimate the happiness of those with paraplegia because they underestimate the human ability to adapt to new circumstances, even negative ones.

Social Comparison

The second domain in which focalism operates is that of social comparison. When comparing their own traits, abilities, or futures to those of others, people overweight information about the self and underweight information about the targets of their comparisons. People judging whether they are more or less likely than their peers to experience a variety of life events, for example, focus too much on their own likelihood of experiencing these events and fail to consider the likelihood that their peers will also experience these events. This leads them to overestimate their relative chances of experiencing common events and underestimate their relative chances of experiencing rare events, producing unrealistic optimism for certain kinds of events (common positive and rare negative events) but unrealistic pessimism for others (common negative and rare positive events). This same kind of focalism operates in comparative judgments of skill and ability, in which people judge as above average their own ability to perform easy tasks, such as operating a computer mouse, while judging as below average their own ability to perform difficult tasks, such as juggling. Finally, focalism contributes to the tendency for people to overestimate the extent to which shared benefits and shared adversities will uniquely affect their own performance in competitive contexts. When estimating their chances of winning a poker game that includes wildcards, for example, people focus too much on how wildcards could help their own hands and not enough on how these same cards can also help their opponents' hands. As a result, people are likely to bet more in games in which wildcards are included, even though the inclusion of wildcards affects all players' chances equally.

Cultural Differences

Susceptibility to focalism varies across cultures. In comparison to North Americans and Western Europeans, Asians are more likely to think holistically, to pay attention to the big picture. This suggests that people in Asian cultures will be less likely to suffer from focalism in their judgments, and research supports this hypothesis. Asians are less likely to focus on a single focal event (such as a change in weather) when predicting their happiness at a later date, and they are less likely to mispredict their future happiness as a result.

Debiasing

How can focalism be reduced? The method of debiasing depends on the type of focalism affecting one's judgments. For predictions about one's future happiness in the wake of a positive or negative event, focalism can be reduced by making a list of all of the other events that will be competing for one's attention in the future. For social comparisons, focalism can be reduced by shifting attention away from the self and toward the comparison target. Instead of being asked to judge their own skills in comparison to their peers, for example, people can be asked to judge their peers' skills in comparison to their own. This technique leads people to focus more on what they know about their peers and produces less self-focused judgments as a result.

Karlene Hanko

See also Confirmation Bias; Social Comparison

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FOOT-IN-THE-DOOR TECHNIQUE

Definition

The *foot-in-the-door* is an influence technique based on the following idea: If you want someone to do a large favor for you, get him or her to do a small favor first. The power of the foot-in-the-door stems from its ability to start with a small, innocuous request and move on to a large, onerous request.

Evidence

In one of the first scientific tests of the foot-in-the-door, psychologists Jonathan L. Freedman and Scott C. Fraser began with a very small request: They had a researcher go door to door in the California suburb of Palo Alto and ask homeowners to put a small sign in their windows that said "Be a safe driver." Why would anyone say no to such an innocuous request? After all, who's against safe driving? Little did these homeowners realize, though, that saying yes to this small request would make them much more receptive to a large request 2 weeks later.

The large request was made by a different researcher who approached each house and asked the homeowner's permission to put a large, ugly sign on the lawn that said "Drive Carefully." Freedman and Fraser knew that most homeowners wouldn't want a large, ugly sign on their lawns because when they made this request to a different set of homeowners, only 17% said yes. But when they made this request to the homeowners who had agreed 2 weeks earlier to put the small "Be a safe driver" sign in their windows, 76% said yes. The foot-in-the-door caused an increase in compliance of over 400%!

How the Foot-in-the-Door Works

Psychologists have put forth a number of theories about how the foot-in-the-door works. One of the more popular theories suggests that when a person complies with the small request, the compliance changes the person's self-image. For example, when a homeowner in Freedman and Fraser's study agreed to display the small "Be a safe driver" sign, he or she might have started seeing herself as someone who cares a lot about road safety. And a person who cares a lot about road safety would probably be willing to put a large "Drive Carefully" sign on his or her lawn, even if it's not the most attractive of signs.

Because the foot-in-the-door technique is so powerful, Dr. Robert Cialdini, one of the foremost researchers on social influence, rarely signs petitions, even for positions he supports. Cialdini knows that today's petition can turn into tomorrow's donation—and we probably won't even realize why we so readily gave that donation.

A Real-World Example

One recent example of a large-scale use of the foot-in-the-door technique was the Internet-based fundraising effort run by Howard Dean during his campaign for the Democratic nomination for the 2004 U.S. presidential election. Prior to Dean's campaign, politicians typically raised money by soliciting large donors. Dean tried something different. Instead of seeking the relatively rare American willing and able to donate thousands of dollars to a campaign, Dean sought the much larger number of Americans willing to donate $25, $50, or $100.

Dean's approach had a number of benefits. First, as Dean and his primary opponents discovered, with lots of donors, small donations can add up to a large campaign fund. Second, once people have donated $25, Dean could contact them again with a request for another $25 (or, perhaps, $50 or $100). Getting the first donation is the tough part. Getting the second donation is much easier. Once someone donated once, that person was not just an American but also a financial supporter of the Dean campaign. And when a person sees him- or herself as a financial supporter of the Dean campaign, that person will be a lot more likely to comply with a request for another donation.

Brad J. Sagarin

See also Attitude Change; Door-in-the-Face Technique; Influence; Persuasion; Reciprocity Norm

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FORCED COMPLIANCE TECHNIQUE

Definition

The forced compliance technique is an experimental procedure whereby people are induced to behave in a way that is inconsistent with their attitudes, beliefs, values, or other thoughts about an issue. The procedure was initially developed for studying how inconsistency between behavior and attitudes can motivate people to change their position on a topic. According to psychological theory, when people behave in a way that is inconsistent with other important cognitions, they experience a state of discomfort similar to hunger or thirst. To reduce the discomfort, they are motivated to restore consistency by changing some of the relevant cognitions. The intriguing aspect of the forced compliance paradigm is that because the inconsistent behavior is often impossible to take back, the path of least resistance for restoring consistency is to change preexisting attitudes or beliefs so that they are consistent with the behavior. Thus, being forced to comply with a request to commit a discrepant act can cause people to justify or rationalize the inconsistent behavior.

The Technique

The forced compliance technique basically requires that people do or say something that is against importantly held attitudes or beliefs. For example, in the original version of the forced compliance technique, participants first worked for an hour on a very boring task (e.g., turning spools on a board). They were then asked if they would help the experimenter by telling the next participant that the task was very interesting and enjoyable. To control the level of discomfort, participants were offered either $1 or $20 for telling the next participant that the boring task was fun. Thus, participants were induced or forced to comply with a request to mislead a stranger about the nature of the experimental task.

After delivering the misleading information to the waiting student (who was actually a confederate), participants completed a survey for the psychology department about their experience in the study. As predicted, participants who were paid only $1 for lying about the task rated the task as more enjoyable than did participants who were paid $20 for telling the same fabrication. That is, participants were feeling

discomfort from the inconsistency between the thoughts "The task was boring" and "I told someone the task was enjoyable." However, the discomfort for the participants in the $20 condition was reduced because they had an additional thought that was consistent with their behavior: They were paid a large sum of money to mislead the waiting person. In contrast, the discomfort for the participants in the $1 condition remained high because, though sufficient to force the participants to comply with the request, the small $1 payment was insufficient to provide a clear justification (i.e., a consonant cognition) for their dishonesty. Participants in the $1 condition had to find another way to reduce their discomfort, and since it was impossible to take back the lie, changing their behavior was not an option. Instead, participants altered their view of what they had done by changing their attitude toward the boring task. Thus, participants in the $1 condition reduced their discomfort by coming to believe that the task was actually not boring after all—it was enjoyable!

The original study had a tremendous impact on the field of psychology, in part because it revealed a reverse incentive effect—larger rewards were associated with less positive attitudes toward an object—a clear challenge to the idea that the more someone is rewarded for a behavior, the more they like it. It inspired research labs around the world to further explore the reverse incentive effect and its implications for understanding human social behavior.

Follow-up research on the reverse incentive effect led to several evolutions in the forced compliance technique. Today, the most widely used version requires participants to write a counterattitudinal essay in which they state a position on a topic that is inconsistent with their own. In the first study to use the essay-writing approach, students at Yale University wrote an essay in support of the aggressive actions taken by the New Haven Police against students on campus. Students at Yale were strongly opposed to the police response, but they were induced to write an essay supporting the police action for $0.50, $1, $5, or $10. Participants then reported their attitudes toward the police action, and the data revealed the same reverse incentive effect: The less they were paid for their essay, the more positive their attitudes were toward the police actions. Presumably, the less they were paid, the more discomfort participants experienced about stating a position that was inconsistent with their beliefs. However, since they could not take back what they had written,

participants reduced their discomfort by changing their attitudes toward the issue.

Research on the forced compliance technique revealed several factors that influence the level of discomfort and attitude change that follow from inconsistent behavior. For example, attitude change is greater when participants believe that they chose, and were not forced, to engage in an inconsistent act and when participants perceive that the act has led to negative consequences that they could have foreseen. Other research challenged the discomfort interpretation of the attitude change effects observed in the forced compliance technique. Some researchers proposed that a logical conclusion about the behavior, and not a motivation to restore consistency, was the most credible explanation for the reverse incentive effects. Others argued that the observed attitude change effects were not real changes; they only represented attempts to present oneself in a positive light to the experimenter. However, both alternative interpretations were later dismissed in research showing that arousal was present when participants stated a position outside of what they could accept, and that participants changed their attitudes even when the experimenter had no way to know what they had said.

Researchers continue to investigate the psychological processes that contribute to the changes observed following forced compliance. Recent research has examined variables that determine whether people are motivated to change their attitudes to fit their inconsistent behavior, such as individual differences in self-esteem, cultural background, and other personality factors that influence how people perceive an inconsistency. Other research has looked at how individuals respond when an important leader or peer behaves in a way that is inconsistent with important attitudes and beliefs held by the observer. The forced compliance technique continues to be an important tool for investigating how discrepancies between behavior and belief influence an individual's perceptions of reality.

Jeff Stone

See also Cognitive Dissonance Theory; Self-Perception Theory

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FORENSIC PSYCHOLOGY

Forensic psychology is a term used to describe a broad and growing range of research topics and applications that address human behavior in the legal system. Forensic psychologists participate as scientists, trial consultants, advocates, critics, expert witnesses, and policy advisers. In so doing, they work not only in research laboratories and mental health clinics but also in police stations, courtrooms, prisons, juvenile detention facilities, and other legal settings.

Although there is a great deal of overlap, there are two types of forensic psychologists: research scientists and clinical practitioners. Trained in the principles and methods of basic psychology, forensic researchers study a wide range of issues, such as group dynamics as it applies to how juries deliberate and make decisions; the processes of perception and memory as they influence eyewitness identifications and testimony; the processes of persuasion as they apply to police interrogations and the confessions they produce; cognitive development as it applies to the testimony, accuracy, and suggestibility of children; personality testing as it applies to the criminal profiling of serial bombers, rapists, arsonists, and other types of offenders; and the use of the polygraph and other measures of bodily arousal for use as lie detector tests.

Clinically oriented forensic psychologists are mental health professionals trained primarily in assessment, diagnosis, treatment, and counseling. Working in criminal, civil, and family law, they are involved not only in conducting research but in making important judgments in specific cases, such as whether offenders were legally responsible or insane while committing their crime; whether defendants are competent or incompetent to stand trial; whether prisoners are dangerous psychopaths or worthy of release on parole; whether a parent is fit to have custody of a child; whether young children have been physically or sexually abused; whether victims of rape have suffered trauma, making it difficult for them to come forward; and whether plaintiffs in civil lawsuits have

suffered emotionally as a result of an accident, injury, discrimination, or harassment.

Three problems illustrate what forensic psychologists do and how their work is used in the legal system. The first concerns the limits of eyewitness memory. As a result of recent advances in DNA technology, it is now possible to match suspects to samples of blood, hair, saliva, or semen found at a crime scene, enabling authorities to both identify criminals and absolve the innocent. Many prisoners have thus been exonerated, or found innocent, of the crimes for which they were convicted. Astonishingly, these cases reveal that eyewitness memory errors are by far the most common problem, appearing in three out of four DNA exonerations.

What factors diminish an eyewitness's memory, and can it be improved? Over the years, researchers have identified a number of problems. For example, research shows that people find it more difficult to recognize members of a race other than their own; that the sight of a weapon reduces a witness's ability to identify the perpetrator; that witnesses tend to pick from a lineup any person who stands out relative to the others. Making it doubly difficult for juries, research shows that eyewitnesses often report being highly confident in their memories, even when mistaken. To improve eyewitness performance, the U.S. Justice Department in 1999 published a set of research-based guidelines for police. Among the recommended methods were that police should ask questions that are open-ended rather than leading; that police should present witnesses with lineups that contain a single suspect and at least five others who generally fit the witness's description; and that witnesses should be instructed that the perpetrator may or not be presented in the lineup. Helping to improve eyewitness performance in these ways, forensic psychologists who study social influences on human perception and memory play a valuable role in the legal system.

The DNA exoneration cases also reveal a second, highly counterintuitive, social psychological phenomenon: that innocent people sometimes confess to crimes they did not commit. Seeking to understand why an innocent person would ever confess, researchers point to a multistep set of police interrogation techniques. First, suspects are removed from familiar surroundings and put into a small, barely furnished interrogation room. The purpose is to isolate suspects, increasing their anxiety and incentive to escape. Next, interrogators confront suspects with unwavering assertions of guilt, interrupting all denials and perhaps deceiving them about the evidence. Once suspects feel trapped, interrogators will then show sympathy and understanding and morally justify, or even excuse, the offense. In short, police interrogation is a process of influence that can get innocent people to incriminate themselves by increasing the stress of denial, plunging them into despair, and then minimizing the perceived consequence of confession. Particularly for people who are highly vulnerable (such as juveniles and those who are cognitively impaired), this process may coerce a false confession.

A third illustration of forensic psychology in action can be found in trials in which the defendant pleads not guilty by reason of insanity. In 1981, John Hinckley Jr. shot and wounded President Reagan. Hinckley was a disturbed young man, a loner who harbored a delusional relationship with actress Jodie Foster. But was he insane? What about Jeffrey Dahmer, a serial killer and cannibal who killed and dismembered 17 men between 1978 and 1991, or Andrea Yates, the mother who drowned her five children, one by one, in a bathtub—were they sane or insane? Insanity is a legal concept. Although definitions vary, defendants are generally not held responsible for a criminal act if, as a result of a mental disorder, they do not know the wrongfulness of their conduct or cannot control their actions in accordance with the law. In each of these cases, forensic psychologists tested and interviewed the defendants and then testified in court about their mental states. In each case, the expert testimony was admitted to assist a jury in its decision making (Hinckley was found not guilty by reason of insanity and committed to a mental hospital; Dahmer was convicted and sent to prison; and Yates was initially convicted and sent to prison, but later her conviction was overturned, and in a second trial, she was found not guilty by reason of insanity and committed to a mental hospital).

Saul Kassin

See also Eyewitness Testimony, Accuracy of; Group Dynamics; Memory; Persuasion

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FOREWARNING

Definition

A forewarning is a warning of an impending influence attempt. Forewarnings include such phrases as, "and now a word from our sponsors," that precede ads designed to persuade listeners. Consistent with the old adage, "forewarned is forearmed," psychologists have discovered that forewarning often leads to resistance, which is decreased persuasion in the direction of the influence attempt. However, under certain circumstances, forewarning can temporarily lead to acquiescence, which is greater attitude change in the direction of the influence attempt. Research typically compares those who are forewarned to those who are not, relative to the processing they engage in and the resulting attitudes.

Background and History

The initial investigation on the topic showed that forewarning leads to greater resistance following an influence attempt. According to Jane Allyn and Leon Festinger, forewarnings engage a defensive motivation, particularly for those who are committed to their viewpoint. When high school students were forewarned that a speaker would be arguing against allowing teenagers to drive, students reported more negative attitudes after the speech compared to those who were not forewarned. So when people expect a message that is dissonant with their attitude, this arouses feelings of suspicion and hostility, resulting in resistance. Subsequent research shows that resistance following forewarning can take the form of increased generation of arguments against the proposal, called counterarguing, or increased thoughts in favor of the person's own attitude, called bolstering.

Other research has shown that, under certain circumstances, forewarning can lead to greater acquiescence. This occurs in the form of temporary shifts in attitudes that occur prior to receiving the message itself. According to William McGuire and Susan Millman,

the expectation of an influence attempt leads people to feel vulnerable and potentially gullible. To avoid this potential threat to their self-esteem, people are motivated to shift their attitudes preemptively in the direction of the influence attempt. So when the persuasion attempt comes, they avoid facing the reality that the message persuaded them a lot. This sort of preemptive shift is not possible in the case of forewarnings that specify the topic but not the direction of the attempt. Robert Cialdini and others suggested that forewarnings that do not indicate the direction of the attempt could lead people to report more moderate attitudes prior to the message. Although they are not necessarily aware of doing so, expressing a more moderate stance helps people present themselves in a more positive light, as more flexible and broad-minded. Taken together these findings suggest that when the focus is on ensuring that the self is viewed positively, forewarning can lead to greater acquiescence prior to the actual influence attempt.

Current Status

In a recent review, Wendy Wood and Jeffrey M. Quinn were able to distinguish when forewarning is likely to lead to increased resistance as opposed to increased acquiescence. In doing so they distinguished between the impact of forewarning prior to and following the actual influence attempt.

The impact of forewarning on attitudes prior to receiving an influence attempt can be either increased resistance or increased acquiescence, depending on the type of processing that occurs. Contemporary models of persuasion, such as the elaboration likelihood model (ELM) by Richard E. Petty and John T. Cacioppo, hold that there is a critical distinction between more thoughtful processing and less thoughtful processing of issue-relevant information. The results of forewarning for attitudes prior to the actual message itself are consistent with this distinction. When the topic is important to an individual, then forewarning will lead to resistance based on thought, such as bolstering the current attitude. On the other hand, if an individual is less concerned about the topic and more concerned about how he or she appears to him- or herself, the individual will acquiesce prior to the message and engage in little thought about the issue. According to the ELM, less thoughtful processing results in attitudes that are less consequential. Consistent with this view, these acquiescence effects are temporary, disappearing following either the receipt or cancellation of the influence

attempt. Thus, the impact of forewarning prior to a message is likely to be greater resistance when thoughtful processing of information related to the issue occurs, but it is likely to be acquiescence when less thoughtful processing occurs and the focus is on ensuring that the self is viewed positively.

Research to date indicates that forewarning leads to greater resistance following the influence attempt. In general, forewarning biases thoughts counter to the direction of the influence attempt, either through increased bolstering of the prior attitude or increased counter-arguing of the persuasive message. This overall effect of resistance following forewarning suggests that those who show acquiescence prior to the message nevertheless engage in more resistance in response to the message itself than those who do not receive forewarning. Processing of the message itself overwhelms the impact of concerns for whether the self is viewed favorably. Thus, while forewarning can at times lead to temporary acquiescence prior to the message, it generally leads to greater resistance once the message is actually presented.

Application

Research on forewarning suggests that advertisers should avoid making their persuasive intent clear prior to the message itself, particularly when thoughtful processing is likely. On the other hand, commercials that only introduce the critical product or topic toward the end may be more persuasive because they circumvent resistance triggered by forewarning.

Jamie Barden

See also Attitudes; Elaboration Likelihood Model; Persuasion; Resisting Persuasion

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FORGIVENESS

Definition

Forgiveness refers to the act of decreasing negative feelings toward someone who has hurt or offended the self. Sometimes forgiveness entails replacing negative feelings with positive feelings. However, many researchers believe that the reduction of negative emotions is sufficient.

Scholarly definitions of forgiveness often do not align with definitions held by the lay public, and these different definitions have created confusion. Thus, many researchers who study forgiveness start their writings by describing what forgiveness is not. To forgive someone does not mean forgetting or downplaying an offense. It does not mean behaving in a weak or timid manner, failing to hold offenders accountable or pretending that no offense occurred. People can forgive without trusting their offenders or choosing to have close relationships with them. Forgiveness is best understood as an internal process: a change in emotions, motivations, and attitudes that often leads to behavioral changes.

Background

Prior to the mid-1990s, psychologists devoted almost no attention to the topic of forgiveness. Forgiveness was seen as intimately tied with religion and spirituality, and many scientists considered these topics to be off limits for empirical research. However, with the recent advent of the positive psychology movement, the study of forgiveness and other virtues has become a rapidly growing area within social psychology. Within the past decade, research on forgiveness has increased dramatically. Social psychologists have studied forgiveness using the perspectives of social exchange theory, self-regulation, and close relationship research, to name just a few.

Injustice, Anger, and Forgiveness

Angry feelings are a natural response to injustice. When people treat one another unfairly, they create what scholars call an *injustice gap,* a gap between the way that things are and the way that things would be if everything were fair. If people believe that they have been treated unfairly, they often ruminate about the offense, replaying it in their minds and becoming more angry. However, if the injustice gap can be closed in some way, anger tends to dissipate. Offenders can close the injustice gap themselves by apologizing or making restitution. Victims may also take matters into their own hands by seeking revenge, pursuing legal action, or confronting offenders with wrongdoing. Regardless of whether people take steps to restore justice, they may eventually decide to forgive the offense.

One might think of forgiveness as bridging the injustice gap. Obviously, bridging a small gap is easier than bridging a large gap. And, indeed, many studies show that forgiveness is easier when the sense of injustice gap is small, that is, when minor offenses are quickly followed by apologies, restitution, or both. Forgiveness is also more likely in close, committed relationships. When people value a relationship, they are more willing to make the effort to bridge the gap. But what if the gap remains large? What about damage that cannot be repaired, such as the murder of a loved one? What about heinous offenses by strangers, particularly those who remain unrepentant or even smug about their crimes? Without question, the task of forgiveness is extremely difficult in such cases.

Costs and Benefits of Forgiving

Why would people want to attempt forgiveness, knowing that it can be so difficult? Many people see forgiveness as a principled decision. Regardless of its pragmatic costs or benefits, they see forgiveness as an important personal value, perhaps even as a moral, spiritual, or religious imperative. It is crucial to note, however, that people may choose unforgiveness for principled reasons as well. They may believe that forgiveness is wrong in certain situations—if the other party is unrepentant, for example, or if the offense is seen as unforgivable. Or, at the level of personal values, a person might hold a grudge because the goal of forgiveness is secondary to other goals involving justice, self-protection, or social dominance.

Although principles are important in guiding human behavior, pragmatic factors also exert a powerful influence. Research has demonstrated several pragmatic benefits of forgiveness. One major benefit is that forgiveness can help to heal relationships. Even in close, caring relationships, people inevitably hurt and offend each other from time to time. Thus, if people never make the sacrifices required to forgive one another, they will find it difficult to sustain close relationships over time. A second benefit of forgiveness is emotional: When people forgive, they free themselves from the emotional burdens of bitterness, resentment, and hatred. This experience of releasing negative emotions can be powerful and transformative, especially if it is accompanied by positive emotions, such as love, gratitude, or a sense of growth. A third benefit relates to physical health: Reductions in chronic anger and hostility may also help forgivers to maintain healthy cardiovascular and immune systems. There are many good reasons, then, to consider forgiveness as an option.

What about the costs of forgiving? Some of the costs that people associate with forgiveness do not involve forgiveness per se; rather, they are linked with behaviors that people commonly associate with forgiveness. For example, people often confuse forgiving with unassertiveness. In an effort to avoid confrontation, unassertive people may minimize serious offenses, accept more than their share of blame, and behave as though no offense occurred. Unfortunately, when people fail to assert themselves, not only do they leave the door open for future exploitation but they may also indirectly harm the offender, in moral terms, by not holding him or her accountable for the offense. Some offenders, particularly those with antisocial or egotistical tendencies, are quick to blame others. If paired with unassertive partners who quietly tolerate mistreatment and readily accept blame, aggressive partners will find it easy to continue a pattern of exploitation.

A closely related problem occurs when forgiveness is confused with reconciliation or trust. Abuse situations are a prime example. It is crucial for abuse victims to understand that they can forgive their abusers without placing themselves in jeopardy by remaining in close contact. Before attempting to forgive, victims often need to protect themselves from their abusers in some way, perhaps by asserting their legal rights, seeking powerful allies, or creating a safe distance.

The previously mentioned examples were based on misconceptions of forgiveness. But even if one uses a textbook definition of forgiveness, one that focuses on a positive emotional shift, forgiveness can still entail costs. One cost is that forgiveness requires people to release angry feelings, and anger carries its own rewards. Anger can energize people, helping them to feel righteous, proud, and strong. It can also spur them to take action to correct injustices. When people let go of anger, then, they may be losing something that has served a valuable function for them.

Another cost of forgiving has to do with the social benefits of being seen as a victim. When people are seen as victims, they often gain sympathetic attention. In fact, one of the primary ways that people fuel grudges is by engaging in vengeful gossip about how their offenders mistreated them. In such situations, third-party listeners often contribute their own negative information about the offender, which may help

the victim to feel supported while contributing to an increasingly negative, demonized view of the offender. Many people are reluctant to give up this potential for social support by stepping out of the victim role.

Perhaps the greatest risk of forgiving has to do with the softening of attitudes that forgiveness entails. Anger is a self-protective emotion. When people allow their attitudes toward another person to become more positive, it can be natural for them to begin trusting the other person again, opening themselves up to the possibility of a continued relationship. Although reconciliation is not part of most textbook definitions of forgiveness, there is no denying that it is often a natural consequence. In many situations, increased openness is adaptive, opening the door for a healed relationship. But if the offender is someone who is ready to exploit others, it could be dangerous to see this person in a highly optimistic light. When offenders seem untrustworthy, offended parties may benefit from learning how to resolve their feelings of hatred or bitterness while still maintaining a cautious, self-protective stance toward the offender.

Individual Differences

Research suggests that people tend to be more forgiving if they are agreeable and get along easily with others. In addition, people are more likely to attempt forgiveness if they identify with a religious or spiritual belief system in which forgiveness is a core value. Neurotic individuals, who are prone to focus on negative events, often have difficulty forgiving. Forgiveness is also difficult for persons who have a sense of entitlement, meaning that they see themselves as superior to others and are highly invested in defending their rights.

The Process of Forgiving

Assuming that a person does want to try to forgive, how might the process unfold? Granted, some people may forgive without being aware of doing so, perhaps because the offense was minor or because they have become practiced at forgiving. But in most cases of serious offense, forgiving requires deliberate effort. The description that follows focuses on cases in which people consciously work toward forgiving.

In most forgiveness interventions, the first step is to honestly assess the harm that was done, along with one's feelings about the offense. As described earlier in this entry, forgiveness does not imply excusing, minimizing, or forgetting offenses. Such strategies may work well for minor offenses, such as being cut off in traffic. However, for more serious offenses, it is important to pinpoint the injustice and try to understand one's emotional responses to it. Many people need encouragement to acknowledge their angry feelings. For example, individuals who are unassertive or low in self-esteem often need to learn that they have a right to be angry when treated unfairly. In contrast, those who see themselves as bold or dominant may find it easy to admit anger but hard to admit fear or hurt feelings.

Because anger can be an important signal of injustice, it is often appropriate to take steps to assert or protect oneself to reduce the odds of being harmed again. Those who forgive will often experience a softening of feelings about the offense or the offender. As such, it is important that people feel safe and strong before they begin to reduce their negative feelings. Authentic forgiveness is rooted in self-respect. In contrast, a lack of self-respect may lead to unassertive responses or a shame-based desire to lash out at one's offender.

Once they have clearly identified the injustice and are operating from a position of strength and confidence, offended parties can make a reasoned decision about whether to try to forgive. In cases of serious offense, it may take weeks, months, or even years before a person will even consider the prospect of forgiving. As people face forgiveness decisions, it is important to note that forgiveness is an act involving both the will and the emotions. Although people can make an intentional decision to forgive, their emotions may not immediately change. Forgiveness requires people to regulate strong emotions, which in turn requires considerable self-control. Strong negative emotions may also require some time to subside. Nonetheless, there are some techniques that people can use to facilitate forgiveness.

Ironically, forgiveness is sometimes facilitated by confronting one's offender. Such confrontations tend to be most successful when delivered in an atmosphere of mutual safety and respect. If people can specify what the other person did that hurt or offended them, they may receive a sincere apology. This outcome is not guaranteed, of course. But if the offender does offer a sincere apology or an attempt at amends, the process of forgiving will be easier. Many offenses are two-sided. Therefore, as part of their exchange with

the offender, people may also find that they need to apologize for some wrongdoing of their own. If they start the interaction with their own apology, they may find that that their willingness to humble themselves will make the other party more willing to apologize.

Several studies suggest that forgiveness is rooted in empathy. Forgiveness will be easier if people can consider the situation from the offender's perspective. For example, they might try to generate good reasons why the offender behaved in this way: Has the offender been mistreated by others in similar ways? Was there a misunderstanding that may have led to the offense? Could the offense have stemmed from the offender's fear or shame rather than from cruelty? To the extent that people can empathize with those who have hurt them and try to understand the offenders' motives, people will find forgiveness easier.

Nonetheless, sometimes people have no idea why another person mistreated them. Or, worse yet, they may be very clear that the other person was truly being malicious. In such cases, forgivers may need to use other means to empathize. For example, they might reflect on a time when they behaved cruelly themselves, particularly if it was a case in which they were forgiven or shown mercy. Or they might focus on the common humanity that they share with the offender. Studies have shown that people find it easier to forgive when they frame offenses as universals ("Human beings do cruel things to one another") rather than focusing on the specific offense against the self ("My brother did a cruel thing to me").

After trying to assert themselves and to empathize with the offender, people may still find that they are left with feelings of bitterness or resentment that they need to release. Some people find imagery useful as part of this release process. For example, they might envision themselves severing a rope that is tying them to their negative emotions. Or they might first envision their negative feelings as a burden that is weighing them down and then visualize themselves setting down the burden and walking away from it. People often report a sense of emotional release, peace, or relief associated with such attempts to release negative emotions.

When people have released their negative emotions, they often believe that the process of forgiving is complete. However, angry feelings commonly recur even after sincere attempts to forgive. An offense might be repeated, for example, or the initial offense might have ongoing consequences that continually remind the forgiver of the damage. Because anger often recurs, people often find it necessary to repeat the forgiveness process.

Julie Exline

See also Anger; Empathy

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FREE WILL, STUDY OF

Free will is a controversial idea in social psychology. Researchers have begun to talk about it and study it, including ordinary people's beliefs about it, but there are many social psychologists who insist that all such beliefs are mistaken. As a field of scientific research, social psychology is almost certainly unable to prove whether free will exists or not. But social psychology can study how people make choices, when they feel themselves to be free versus less free, how action is initiated and controlled, how people react when their freedom is taken away, and what the consequences are of believing versus disbelieving in free will.

Definition

Free will is a concept inherited from philosophy and even theology, so it is not one that scientists have been

able to define as they wish. That definitional problem has contributed to the controversies about it, because different people use the term to refer to different things.

The core idea behind free will is that people can choose to act in different ways. The opposite belief is determinism, which holds that every action is fully caused (determined) by prior events.

Think of something you did recently, even perhaps picking up this entry to read. Is it possible that you could have done something differently? Or was it an inevitable result of forces and pressures operating on you, including both the current situation and past experiences and lessons? You may have felt as though you made a decision to read this, but then again that feeling might be an illusion. Strict determinists think that it was inevitable that you read this and that you really could not have done anything else. In contrast, if you have free will, then you might well have done something different.

The "will" part of free will presents additional problems for some philosophers and psychologists. It implies that there is such a thing as a will, as a part of the human mind, possibly located somewhere in the brain. Many experts believe that the will is just a metaphor or a convenient way of talking about human mental processes, rather than being something real. Those experts hence reject the term *free will* and prefer to talk about *freedom of action.* Some of them think that freedom is real and the will is not real. For most, however, the issue is whether freedom really exists, and the "will" part is not the controversial part.

Opposition to Free Will

Social psychologists who reject the idea of free have several main reasons for doing so. One is a simple act of faith. Many psychologists believe that, as scientists, they must believe that there is a cause for everything and that determinism is the only suitable assumption for scientific research. Most agree that determinism cannot be proven true, but they believe that it is necessary for scientists to assume that it is true. Some regard free will as an obsolete religious idea. B. F. Skinner, the famous behaviorist, wrote a book called *Beyond Freedom and Dignity,* in which he called upon people to abandon their silly (as he saw it) belief in freedom of choice and accept that everything everyone does is a product of reinforcement history (i.e., previous rewards and punishments for similar behaviors)

and learning, plus a few innate biological patterns. Skinner studied the behavior of rats and found that a few general principles could explain rat behavior. He thought human behavior followed the same principles, perhaps in a slightly more complicated way but in no less determined a fashion.

In psychology, there are several lines of evidence that call into question people's belief in free will. Certainly almost all show that human behavior is caused by something, including the sorts of rewards and punishments that Skinner studied. That very fact of causation can be taken as evidence against free will. More dramatically, work by Sigmund Freud claimed to show that people's behavior is often guided and shaped by unconscious processes and forces, so that what they consciously think they are doing might be mistaken. For example, Freud suggested that a man who criticizes, condemns, and attacks homosexuals might consciously believe that homosexuality is bad, but underneath he may have an unconscious attraction to homosexuality, and so he defends himself against his own homosexual feelings (which he cannot accept) by insisting that homosexuality is evil.

More generally, recent research has shown that many nonconscious processes affect behavior strongly. Mostly these do not have a strong resemblance to the kind of unconscious dynamics that Freud wrote about. Instead of a dungeon into which socially unacceptable thoughts are banished, the new theories depict the unconscious as more like the support staff of an important executive, performing many helpful activities behind the scenes. Research has shown that people are affected by many stimuli that they never realize consciously (such as subliminal advertising—flashing an image so fast that one does not consciously see it but unconsciously registers and responds to it). In one famous study, research subjects had to solve word puzzles in which they unscrambled sets of words to make short sentences. By random assignment, some of the participants solved sentences that invoked the idea of being old, such as the words *retirement, sunshine,* and *Florida.* When the participants left the experiment, the researchers secretly timed how fast they walked to the elevators. The participants who had been "primed" with the idea of being old walked more slowly than other participants. Such causes do not indicate any free will. The conscious decision about how fast to walk did not involve any deliberate decision to walk slowly, but their behavior was affected by these nonconscious processes.

The operation of such effects is one important factor that makes experts question the idea of free will. It is certain that many times when people believe they are freely, consciously deciding what to do, in reality they are affected by things outside their awareness.

Even when people think they control and initiate behavior, they are sometimes mistaken. Work by Daniel Wegner, summarized in his book *The Illusion of Conscious Will,* has shown that people are often mistaken about whether they caused something to happen. He has run many cleverly designed experiments in which people are or are not responsible for some event, and yet they consciously have an opinion about it that can be shown to be wrong. Have you ever played with an Ouija board? Many people like to think that the movement of the Ouija board pointer is guided by ghosts or spirits and that people are not conscious of moving the pointer themselves, but in reality they do move it themselves. Ouija boards are one illusion of free will.

Support for Free Will

Against the skeptics, some researchers believe that people do actually make choices and have some degree of freedom. The deterministic view that there is no free will is unproven and unprovable, as noted. Moreover, it is contrary to everyday experience (in which people feel that they are making choices in which more than one outcome is possible). Also, psychological data usually do not show 100% inevitable causation; rather, most psychology studies simply show a difference in the odds of some response. By that view, the way psychological causes work is simply to change the odds a bit rather than to activate a response that is inevitable. That leaves ample room for free will, at least in theory.

Other support for free will comes from recent evidence that willpower is more than a metaphor. Self-control and choice are central to most discussions of free will, and they do seem to use up some psychological resource that could be called willpower.

Other support comes from simply recognizing the importance of choice and freedom in human life. If freedom is entirely an illusion, why have there been so many wars, revolutions, and strivings to gain it? Why do people struggle so over making decisions? Why do people react so negatively when their freedom is taken away?

Common Beliefs

Another research approach is to study the effects of believing in free will, because some people believe in it more than others. Delroy Paulhus has developed a personality trait scale that sorts people according to whether they believe in free will or not. It is possible to give that questionnaire to people, score it, and then bring people into the laboratory to see how they behave. People who believe in free will may act differently from people who reject the idea.

Another approach is to manipulate that belief. Kathleen Vohs and Jonathan Schooler have developed several procedures to increase or decrease belief in free will, such as by having some participants read an essay that says science has supposedly proven that free will is a false idea and that brain processes are a complete cause and explanation for all behavior. They have found that these beliefs make a difference. For example, when people are discouraged from believing in free will, they become more willing to cheat and perform other antisocial behaviors. Other work has shown that losing the belief in free will makes people more aggressive and less helpful to others. Apparently the common belief in free will promotes a sense of personal responsibility and social obligation, and so people treat each other better to the extent that they believe in free will.

At a Crossroads

The topic of free will has come to the forefront of social psychology research because of its profound implications and its relevance to several, very different lines of thought and investigation. It seems likely that the next 10 years will yield important new advances in how psychologists understand the way people act and how they talk about the idea of free will.

Roy F. Baumeister

See also Automatic Processes; Consciousness; Dual Process Theories; Ego Depletion; Reactance

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FRUSTRATION–AGGRESSION HYPOTHESIS

For a good many students of human behavior, the main reason why people become aggressive is that they have been frustrated. William McDougall, one of the first psychological theorists to be explicitly labeled a social psychologist, espoused this idea at the beginning of the 20th century. He maintained that an instinct to engage in combat is activated by any obstruction to the person's smooth progress toward his or her goal. Sigmund Freud had a similar view in his early writings. Before he developed the notion of a death instinct, he proposed that aggression was the primordial reaction when the individual's attempt to obtain pleasure or avoid pain was blocked. This general conception, widely known as the frustration–aggression hypothesis, was spelled out much more precisely in 1939 by John Dollard, Leonard Doob, Neal Miller, and several other psychologists, all at Yale University. This particular analysis will focus on highlighting many of the theoretical issues involved in determining the role of frustrations in the generation of violence.

The Frustration–Aggression Hypothesis and Its Modifications

The Yale group took care to define *frustration* clearly, not as an emotional reaction but as a condition interfering with the attainment of an anticipated goal. Aggression, in turn, was regarded as a behavioral sequence whose goal was the injury of the person to whom it was directed. The team then went on to contend not only that every frustration produces an urge to aggression but also that every aggressive act presupposes the existence of frustration. Few psychologists today accept both parts of this broad-ranging formulation. Moderating the first proposition in the Yale group's sweeping analysis, in 1948 Neal Miller acknowledged that people prevented from reaching an expected goal might well have a variety of reactions, not only aggressive ones. Nevertheless, he argued that the nonaggressive responses to the frustration will tend to weaken, and the instigation to aggression strengthen, as the thwarting continues. The second part of the formulation, stating that all aggression is ultimately traceable to some prior interference with goal attainment, is largely disregarded these days. It is now widely recognized that an attack can at times be carried out in hope of fulfilling some nonaggressive desire, such as for greater approval by one's social group. And so, rather than having been thwarted frequently, some highly aggressive people might have learned that their assaults are likely to bring nonaggressive rewards.

Critiques of the Frustration–Aggression Hypothesis

The 1939 monograph quickly captured the attention of many other social scientists and prompted the publication of a number of critiques basically insisting that an interference with goal attainment produces an aggressive urge only under special circumstances. Many of these objections have essentially been taken up nowadays by appraisal theorists, those psychologists who maintain that what specific emotion is experienced in a given situation depends virtually entirely on just how the situation is understood (appraised). In the case of anger (and presumably affective aggression as well), some of these writers contend that the goal blockage has to be perceived as a threat to the ego if it is to generate an inclination to aggression. Appraisal theorizing has also frequently proposed other restrictions—for example, that there will not be a desire to hurt some target unless an external agent is regarded as responsible for the thwarting, and/or the interference is perceived as improper, and/or the obstruction can be removed (i.e., the situation is controllable).

Investigations of the Relation Between Frustration and Aggression

The controversy surrounding the frustration–aggression hypothesis has spurred a truly impressive number of investigations. Many (but certainly not all) of the laboratory tests have yielded supporting results. Taking only a very few examples, in one experiment reported more than two generations ago, children expecting to see an enjoyable movie were suddenly frustrated because the motion picture projector had supposedly unexpectedly broken down. When these youngsters played a game with another child soon afterward, they were more aggressive to their peer than were the nonthwarted controls, even though this person was clearly not responsible for their disappointment and the

projector breakdown had not been an ego threat. In yet another study conducted some years later, the college-age participants were asked to complete a jig-saw puzzle in the presence of a supposed other student. In one condition the participants were unable to assemble the puzzle in time because of the other individual's disturbance, whereas in another condition they couldn't do the job because, unknown to them, the puzzle actually was insoluble. When all the participants were later able to administer electric shocks to this other student, supposedly as a judgment of his performance on an assigned task, those who had been obstructed by him were most punitive. But even those whose frustration had been internally caused were more aggressive to the other (and presumably innocent) individual than were their nonfrustrated counterparts. Even more intriguingly, much more recent research indicates that even young infants display angry reactions (in their facial expressions) when they are frustrated by the nonfulfillment of a learned expectation. It is as if there is an inborn tendency for thwarted persons to become angry and disposed to aggression.

Generally speaking, the entire body of this research indicates that anger and emotional (affective) aggression can occur even when the situational interpretations stipulated as necessary by appraisal theory are not made. Violence may well be more likely when the goal blockage is regarded as socially improper and/or deliberately intended by some external agent, but this may be because these appraisals heighten the instigation to aggression and not because they are necessary.

Extensions and Apparent Exceptions

All this is not to say, however, that an interference with goal attainment will invariably lead to anger and an attack on some available target. Some research initiated by the Yale group shows how general can be the basic idea that people become aggressive when they are unable to satisfy their desires—and also the inconsistencies that can be seen at times. Employing statistics from the southern United States at the time when this region's economic prosperity was greatly dependent on its chief crop, cotton, Carl Hovland and Robert Sears demonstrated that before the 1930s, sudden drops in the value of cotton were also marked by a rise in the number of Blacks who were lynched. Unexpected financial losses, presumably interfering with the attainment of economic satisfactions, had evidently generated an increased number of assaults

on an especially disliked group. Partly confirming the Hovland-Sears findings, Donald Green, Jack Glaser, and Andrew Rich reported that there was a relatively small but significant tendency for some measures of economic hard times in the South to be linked to an increased number of lynchings of Blacks in that region in the period the original researchers had studied. But they also noted that economic fluctuations were not related to variations in the number of Blacks lynched in the South after the 1930s. Furthermore, they also observed that changes in economic conditions in New York City had no influence at all on the number of hate crimes against gays, lesbians, and Blacks from the late 1980s to the mid-1990s.

All in all, even if frustrations do generate an instigation to aggression, it is clear that this inclination is not necessarily always manifest in an open assault on an available target. Inhibitions prompted by the fear of punishment or by one's own internal standards obviously may block the urge. In the Green, Glaser, and Rich research, whatever violent impulses the economically hard-pressed people might have had in New York City or in the U.S. South after the 1930s, their aggressive inclinations could well have been restrained by expectations of social disapproval, threat of legal punishment, or both. Much of the public conceivably might also have learned to respond to their privations in nonaggressive ways, in this case by calling for governmental help. And then too, it could also be that the stimulus characteristics of the available target affect the probability that the affectively generated instigation to aggression will be translated into an overt assault. Those persons, such as Blacks or Jews, who are greatly disliked by the thwarted people, or who are strongly associated with other victims of aggression, may be especially likely to be the targets of displaced aggression.

A Revised Frustration–Aggression Hypothesis

However, even when one contends that factors such as these might mask the inclination to aggression, one must still wonder why there are so many occasions when failures to obtain an expected satisfaction clearly do not produce an aggressive reaction. In Leonard Berkowitz's revision of the frustration–aggression hypothesis, he proposed that it is not the thwarting per se that generates the aggressive urge but the strong displeasure produced by the goal interference. People sometimes are not angered by their inability to reach an

expected goal simply because they're not very unhappy at this failure. And similarly, from this perspective, several of the appraisals sometimes said to be necessary for anger generate hostility primarily because these interpretations are often exceedingly aversive. Someone's deliberate attempt to keep a person from fulfilling his or her desires is much more unpleasant than an accidental interference with his or her goal attainment, and thus, is much more apt to stimulate the person to aggression. This analysis regards the frustration–aggression hypothesis only as a special case of a much more general proposition: Decidedly aversive occurrences are the fundamental generators of anger and the instigation to aggression.

Leonard Berkowitz

See also Aggression; Anger

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FUNDAMENTAL ATTRIBUTION ERROR

Definition

The fundamental attribution error describes perceivers' tendency to underestimate the impact of situational factors on human behavior and to overestimate the impact of dispositional factors. For instance, people often tend to believe that aggressive behavior is caused by aggressive personality characteristics (dispositional factor) even though aggressive behavior can also be provoked by situational circumstances (situational factor).

History

The term *fundamental attribution error* was created in 1977 by social psychologist Lee Ross. However, research on the fundamental attribution error goes back to the 1950s when social psychologists Fritz Heider and Gustav Ichheiser started to investigate lay perceivers' understanding of the causes of human behavior. Interest in the fundamental attribution error experienced a peak in the 1970s and 1980s when a general notion within social psychology was to discover shortcomings in human judgment.

Notwithstanding its widely accepted significance for social psychology, the fundamental attribution error has also been the subject of controversies regarding its general nature. On the one hand, critics argued that the fundamental attribution error does not occur for everyone under any circumstances, which challenges the adequacy of the label *fundamental.* On the other hand, critics claimed that there is no unambiguous criterion that could specify the real causes of human behavior, thus challenging the adequacy of the term *error.* Irrespective of these controversies, the fundamental attribution error is generally regarded as a very important phenomenon for social psychology, as it often leads to surprised reactions to research findings demonstrating a strong impact of situational factors on human behavior.

Evidence

From a general perspective, evidence for the fundamental attribution error comes from three different lines of research. First, numerous studies have shown that people tend to infer stable personality characteristics from observed behavior even when this behavior could also be due to situational factors. For example, students may infer a high level of dispositional anxiety from a fellow student's nervous behavior during a class presentation, even though such nervous behavior may simply be the result of the anxiety-provoking situation. This tendency to draw correspondent dispositional inferences from situationally constrained behavior is usually called the *correspondence bias.* In the present example, the fundamental attribution error can contribute to the correspondence bias when

perceivers do not believe that giving a class presentation is anxiety provoking. Thus, perceivers will infer that the presenter must be an anxious person, even though most people would show the same level of behavioral anxiety during a class presentation.

A second line of research on the fundamental attribution error is concerned with surprised reactions that are often elicited by social psychological findings. Consistent with social psychology's notion that human behavior is strongly influenced by situational factors, several studies have shown that everyday people often do not help other individuals in an emergency situation when other people are present, that everyday people are willing to administer life-threatening electric shocks to other individuals upon request by an experimenter, and that everyday people engage in sadistic, torturing behavior simply because they are assigned to a superior social role. These findings have provoked surprised reactions not only among lay people but also among professional psychologists. One reason for these reactions is that perceivers tend to underestimate how simple changes in the situation can lead everyday people to engage in immoral behavior.

A third line of research on the fundamental attribution error is concerned with cultural differences in lay perceivers' explanations of human behavior. A large number of cross-cultural studies have shown that people in Western societies tend to explain human behavior in terms of stable personality characteristics, whereas people in East Asian societies tend to explain human behavior in terms of situational factors. For example, a school massacre may be described in terms of the abnormal personality of the perpetrator in Western cultures, whereas the same massacre may be described in terms of the perpetrator's situation in East Asian cultures. This difference is assumed to have its roots in a more general difference between Western and East Asian worldviews. Whereas Western societies tend to stress the independence and uniqueness of each individual (individualism), East Asian cultures tend to stress the connectedness and the relation of the individual to the social context (collectivism). This difference, in turn, leads to a stronger focus on characteristics of the individual in Western cultures and to a stronger focus on characteristics of the individual's situation in East Asian cultures.

Correspondence Bias

The fundamental attribution error is often associated with another social psychological phenomenon: the correspondence bias. The correspondence bias refers to perceivers' tendency to infer stable personality characteristics from other people's behavior even when this behavior was caused by situational factors. Originally, the terms *fundamental attribution error* and *correspondence bias* were used interchangeably to refer to one and the same phenomenon, namely, perceivers' tendency to underestimate the impact of situational (relative to dispositional) factors on human behavior. However, recent research has shown that the correspondence bias can also be due to factors that do not imply an underestimation of situational factors. Rather, perceivers sometimes commit the correspondence bias because they consider situational factors to have a strong impact on human behavior. Drawing on these findings, many researchers in the field now distinguish between the fundamental attribution error and the correspondence bias, viewing them as two different (though sometimes related) phenomena. Specifically, the term *fundamental attribution error* is now used to describe people's tendency to underestimate the causal impact of situational factors on human behavior and to overestimate the impact of dispositional factors. In contrast, the term *correspondence bias* is used to describe people's tendency to infer stable personality characteristics from observed behavior even when this behavior could also be due to situational factors (which may or may not be due to an underestimation of situational factors).

Explanations

From a general perspective, explanations of the fundamental attribution error have focused on (a) cognitive mechanisms, (b) motivational influences, and (c) general worldviews.

With regard to cognitive mechanisms, it has been argued that actors usually have a higher perceptual salience than situations. As such, observed behavior often forms a perceptual unit with the actor, but not with the situation in which it occurs. This mechanism leads to different outcomes for actors who generally see the situation they are responding to but do not see themselves engaging in a particular behavior. This explanation is supported by research showing that only observers tend to attribute a stronger impact to dispositional as compared to situational factors, whereas actors tend to attribute a stronger impact to situational as compared to dispositional factors.

With regard to motivational influences, it has been argued that the fundamental attribution error implies

a general tendency to see human behavior as controlled by the individual rather than by situational factors. Specifically, lack of personal control over one's actions would imply that individuals may not be responsible for their actions, thus undermining the social and legal basis of many modern societies. As such, people are sometimes motivated to downplay the impact of situational factors on human behavior to protect the general notion of personal responsibility.

Finally, it has been argued that the fundamental attribution error has its roots in an individualist worldview that sees each individual as independent and unique. This explanation is derived from crosscultural research, showing that people in collectivist cultures attribute a stronger weight to situational factors than do people in individualist cultures.

Bertram Gawronski

See also Actor–Observer Asymmetries; Attributions; Attribution Theory; Bystander Effect; Correspondence Bias; Milgram's Obedience to Authority Studies; Stanford Prison Experiment

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G

Gain–Loss Framing

Definition

Gain or loss framing refers to phrasing a statement that describes a choice or outcome in terms of its positive (gain) or negative (loss) features. A message's framing does not alter its meaning. For example, the gain-framed message "One fourth of people will survive the attack" is semantically equivalent to the loss-framed message "Three fourths of people will perish in the attack." Framing does not refer to whether a communicator portrays a choice or outcome as good or bad. Instead, it refers to whether an option or possibility is communicated in terms of its positive or negative consequences.

In one type of gain–loss framing, *different-consequences framing,* one states a statistic of the likelihood or quantity of either the positive or the negative outcome. For example, one might describe the probability that safety-belt wearers would live (gain frame) or die (loss frame) if they are involved in a highway accident. With *same-consequences framing,* one describes what is gained by taking, or lost by failing to take, an action. For example, a weight loss company could frame their advertisements focusing on either the benefits of slimming down to a healthy weight (gain frame) or the things one would miss out on by remaining overweight (loss frame). For both types of framing, the frame does not alter the content communicated; with no additional knowledge, one can express a gain- or loss-framed message using the opposite frame.

Context

The way a choice or appeal is framed can affect the behavioral decisions of the message recipients. A standard assumption in traditional economic theories is that if the exact same content is described to people in a different way (using a different frame), this will not affect their judgments or decisions. This assumption is the principle of descriptive invariance. However, a wealth of evidence demonstrates that the framing of a message or choice does matter. The contrasting effects of gain and loss frames suggest that the descriptive invariance principle does not accurately describe human judgment.

Framing Effects and Prospect Theory

In the most famous demonstration of gain–loss framing, research participants were confronted with the Asian Disease Problem. According to the problem, an Asian disease is going to cause an outbreak in the United States and is expected to kill 600 people. There are two plans—one certain, one risky—that can be taken to try and contain the disease. Described using a gain frame, the certain plan would allow 200 lives to be saved, while the risky plan would provide a one-third chance of saving all 600 lives and a two-thirds chance of saving no lives. Under the loss frame, the certain plan would lead to the certain loss of 400 lives, and the risky plan would provide a one-third chance of no lives lost and a two-thirds chance of all 600 lives lost. While each plan offers the same outcome regardless of the way it is framed, a clear majority of people select the certain plan in the gain frame, but the risky plan in the loss frame.

Most researchers use prospect theory to explain such different-consequences framing effects. According to the theory, people tend to be risk averse (want to avoid risk) in the domain of gains, but risk seeking in the domain of losses. Most people would rather take a sure $100 instead of a riskier 50–50 chance at $200, reflecting risk aversion for gains. But someone who receives $200 and then must either take a certain loss of $100 or a 50–50 chance of losing nothing or everything will most likely take the risky alternative. By framing the exact same offer in terms of losses, people prefer the riskier alternative that offers a chance of not losing anything.

Same-consequences framing effects are explained according to a different aspect of prospect theory, *loss aversion.* Loss aversion says that losses loom larger than gains. For example, most people would not be willing to flip a coin for an even chance of winning $100 or losing $100, because a potential loss is worse than a potential gain of the same amount. Capitalizing on loss aversion, persuasive messages aimed at changing behavior tend to be more effective when framed in terms of what one loses by not taking an action (loss frame) as opposed to what one gains by taking an action (gain frame). In an applied study, credit card companies identified customers who had not been using their credit cards recently and tried to persuade customers to switch from using cash or checks to using their credit cards. Compared with customers who were told how using credit cards offered unique benefits not shared by cash or checks (gain frame), customers who were told about all they would lose by not using their credit cards (loss frame) were subsequently more likely to resume using their cards. Consistent with the notion that losses are more attention-capturing or pack a bigger punch, those who received the loss-framed message were better able to recall the content of the persuasive appeal several months later.

Health Applications

Gain–loss framing effects have guided the construction of health-promotion appeals. One crucial distinction in designing such messages is whether they seek to promote preventive measures or to encourage early detection of a medical condition. In promoting healthful preventive measures (e.g., applying sunscreen), gain framing seems to be more effective. In encouraging early detection (e.g., breast self-examination), loss framing produces more behavioral compliance. Of particular importance, the effects of gain–loss framing continue beyond the time of message exposure, predicting preventive and early detection behaviors as far as 4 months into the future. As future research discovers what, in addition to prospect theory, accounts for framing effects, practitioners will be better able to predict whether gain or loss frames would be superior for any given framing task.

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See also Bad Is Stronger Than Good; Behavioral Economics; Decision Making; Loss Aversion; Prospect Theory; Risk Appraisal; Risk Taking

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Gambler's Fallacy

If a coin were flipped and it came up heads, would it be more likely to come up tails the next time? If a baseball player normally gets a hit 30% of the time but has no hits after three tries, is he "due" for a hit, in the sense that he is more likely than usual to get one the next time? The temptation to say "yes" to such questions is based on the gambler's fallacy.

Definition

The gambler's fallacy, also known as the negative recency effect and the reactive inhibition principle, refers to a common mistake in human judgment. It is the belief that, for random independent events, the lower the frequency of an outcome in the recent past, the greater is the likelihood of that outcome in the future. The belief is false because it is based on the assumption that chance is self-correcting, so that a shift in one direction indicates an impending shift in the opposite direction.

Background

The term was first coined by Amos Tversky and Daniel Kahneman in 1971 and is one of several examples of the representativeness heuristic identified by the researchers. The representativeness heuristic refers to an error in judgment such that the more a proposed outcome appears representative of a pattern, the more likely people believe it is to occur. Relative to the gambler's fallacy, certain sequences of events appear more random than others and are thus judged to be more probable.

Analysis

For example, suppose an unbiased coin were flipped five times, each time landing on heads. Those falling prey to the gambler's fallacy, reasoning that tails is due, would predict that the next coin toss would more likely result in tails than heads. The outcome of the next coin toss, however, is independent of any previous coin tosses. The probability of the coin landing next on tails would be equal to that of it landing on heads.

One of the clearest examples of the gambler's fallacy can be seen at the roulette wheel in a casino. Some roulette players record the outcome of each spin of the wheel, with the implicit belief that they are able to discern a pattern. If red numbers have been called more frequently in the recent past, gamblers often place their next bets on black, and vice versa. Assuming the wheel is not rigged, however, there is no logical support for this behavior.

The gambler's fallacy should not be confused with its opposite, the hot hand fallacy. This heuristic bias is the mistaken belief that, for random independent events, the *more* frequently an outcome has occurred in the recent past, the greater is the likelihood of that outcome in the future. This bias in judgment was named after basketball fans' perceptions of players with "hot hands." A player is said to have a hot hand if he or she makes several baskets in a row. On that basis, fans endorsing the hot hand fallacy believe the player's chances of making the next basket to be higher than usual. Fans readily endorse this belief even though previous successful shots have nothing to do with a player's chance of making the next basket.

Andrew Cox
Nathan C. Weed

See also Hot Hand Effect; Law of Small Numbers; Representativeness Heuristic

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GENDER DIFFERENCES

There are differences between men and women, but most scientific studies show that gender differences in psychological characteristics are small. Men and women do not have radically different brains, personality traits, cognitive skills, or behaviors. There are some differences on average, but men and women are not the black versus white opposites that many people believe. (Even the phrase *opposite sex* encourages this view.)

There have been numerous media reports about just how different men and women are. The former president of Harvard, Lawrence H. Summers, said that women are not naturally inclined toward science. The media report that adolescent girls have extremely low self-esteem. A best-selling book claims that *Men Are From Mars, Women Are From Venus.* However, men and women are not from different planets, or even different continents here on Earth. The size of most gender differences is more consistent with men being from Minnesota and women being from Iowa.

Referring to psychological gender differences as small means that the effects are between 1/4 and 1/2 of a standard deviation (a statistical term; 1/4 of a standard deviation is a small difference, 1/2 is moderate, and more than 3/4 is large). So that means that gender explains less than 5% of the variation among people in most psychological characteristics. In comparison, the gender difference in height, for example, is almost two standard deviations, so gender explains 50% of the variation among people in height. Yet there are many women who are taller than many men. That said, what does research say about the differences that exist? This entry will review four major areas of difference: cognitive abilities, personality traits and self-esteem, attitudes, and behavior.

Cognitive Abilities

Stereotypes suggest that boys are good at math and girls are good at English. There is a small difference in verbal ability, with women a little better than men at this skill. A meta-analysis by Janet S. Hyde and her colleagues found that boys and girls show no differences in math ability in elementary school. By late adolescence and early adulthood, men do better at math, but the difference is small to moderate, explaining about 3% to 6% of the variation among people in math skills.

Spatial ability is one of these slightly larger differences; this means that men are somewhat better at rotating figures in their heads and finding their way around town. If the performance of men and women on spatial ability tests were graphed, there would be two curves that overlapped a huge amount, with men's curves slightly ahead. This does mean that among those very talented in this area there are many more men than women, as a small average difference creates more of a discrepancy at the high and low ends of the curve. There is no gender difference at all in overall intelligence.

In the mid-1990s, several popular books suggested that girls get less attention in school and lose their academic confidence during adolescence. Although teachers may sometimes treat boys and girls differently, girls consistently earn better grades in high school and are more likely to go on to college. The *Statistical Abstract of the United States* notes that 57% of college degrees are awarded to women, and entering medical school and law school classes are now 50% female.

Personality Traits and Self-Esteem

Gender differences in personality traits are also small. An analysis by Alan Feingold found that women tend to score higher in anxiety and neuroticism, but they also score higher in extraversion (linked with positive emotions). So there is some evidence that women experience more emotional ups and downs, but these are small differences, no more than 1/2 a standard deviation (or about 6% of the variation among people explained by gender). Even among adolescents, self-reports of symptoms linked with depression are only about 1/4 a standard deviation higher among girls (less than 2% of the variance). Clinical depression has a larger sex difference, with about twice as many women as men diagnosed with major depression.

A great deal of attention has also been paid to gender differences in self-esteem. There is a popular perception that girls lose their self-esteem during adolescence. Yet the most comprehensive study of gender differences in self-esteem, by Kristen Kling and colleagues, found that men score only 1/7 of a standard deviation higher than women in self-esteem (less than 1% of the variance). Even among adolescents, the difference is only 1/4 a standard deviation (less than 2%). Even this small difference is not caused by girls' self-esteem going down; it just doesn't go up quite as fast as boys' self-esteem does during the teen years.

Attitudes

There are also some small gender differences in attitudes. Women tend to be more liberal than men on social issues. As one might expect, women are more progressive in their attitudes about women's roles. Women are also more tolerant of gay men (there are no gender differences in attitudes toward lesbians). Women are more likely to vote for Democrats than are men.

Behavior

Men and women do differ in their desire for sex, as found in separate reviews by Janet Hyde and Roy Baumeister and colleagues. Men desire more sex with more partners. Men also masturbate more often and are more accepting of casual sex; both of these differences exceed 3/4 a standard deviation and explain about 20% of the variation among people. Many of these differences, of course, are much smaller than they were decades ago. In the 1960s and earlier, men were more likely than women to engage in premarital sex; now, however, there is virtually no gender difference in this practice.

One of the larger psychological sex differences lies in interests. Generally speaking, men (compared to women) are more interested in things (like cars, buildings, and machines), and women are more interested in people (e.g., how people think, and how their bodies work). For example, Richard Lippa found that men were more likely to prefer professions centered on the "manipulation of objects, tools, machines, and animals," and women were more likely to prefer professions that involved "activities that entail the manipulation of others to inform, train, develop, cure, or

enlighten" (note, however, that these differences could be caused by cultural expectations, biological sex differences, or—most likely—both). This is one reason why there are more men in fields like engineering (78% of bachelor's degrees in engineering go to men) and more women in fields like psychology (76% of bachelor's degrees in psychology go to women). However, the things versus people distinction makes some less sex-stereotypical predictions for the future: If women are more interested in people, women will eventually be the majority of doctors, lawyers, and politicians.

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See also Big Five Personality Traits; Cultural Differences; Erotic Plasticity; Personality and Social Behavior; Self-Esteem; Stereotype Threat

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Genetic Influences on Social Behavior

Why do people act the way they do? There is no simple answer to this question, because social behaviors, like all human characteristics, are influenced by multiple factors. The two most basic influences on social behavior are genes (the chemical instructions that people inherit from their parents' DNA) and the environment (all other, noninherited factors).

Contrary to a common misconception, genes do not *cause* behavioral or personality traits, they only *influence* them. Although genes may be linked to certain traits, it is unlikely that researchers will ever find

a single gene that is entirely responsible for most complicated behaviors. First, each gene is not linked to one and only one trait; one gene may influence many different personality characteristics. In addition, many genes work in concert to influence most behaviors, meaning the genetic aspects of a particular trait are the result of small effects over hundreds of individual genes.

Even if all of the genes influencing behavior were discovered, behavior still could not be fully explained nor predicted. This is because people's environments are just as important in influencing behavior as their inherited genes. Factors such as parenting, schooling, trauma, and the prenatal environment, all play critical roles in the development of social behavior. Even the most highly heritable traits, such as height, are influenced by environmental factors, as demonstrated by malnourished children that are very short despite having tall parents. In this example, environmental factors such as nutritional intake have actually altered the way in which genetically influenced characteristics are expressed.

Therefore, although these two influences are often presented in an either/or fashion, as in the commonly used phrase "nature versus nurture," evidence suggests that behaviors and other characteristics do not have one clearly identifiable cause. More probable is that both factors are always at work and that for the cause of any given trait researchers should not be asking, "Genes or environment?" but rather, "What is the contribution of each and how do they work together?"

Concepts and Definitions

Shared/Nonshared Environment

To further understand those factors not due to heredity, the concept of *environment* can be further broken down. If two individuals experience the same environmental conditions, they are expected to be similar; at the same time, if two people have different experiences, it is assumed that they will behave differently. In behavioral genetics, environmental influences that cause family members to be similar are by definition *shared,* and those influences that cause family members to be different are *nonshared.* In the case of twins, the prenatal environment can typically be considered shared, since the developmental conditions experienced are nearly identical. Peer relationships provide an example of nonshared environment:

Even identical twins growing up in the same household can behave quite dissimilarly, and part of the reason for this can be different peer groups.

Genotype–Environment Correlation

As already mentioned, it is now widely held that both nature and nurture simultaneously influence traits and that, to some extent, the environment can influence the expression of genes. It is now clear that the reverse is also true, that genetics influence environment, or at least social relationships. In essence, the two forces operate in such a way that children may create their environment based, at least in part, on genetically influenced characteristics. This is called *genotype–environment (GE) correlation,* which can be further explained using the terms *passive, active,* or *evocative.*

A passive GE correlation is the result of the parents' genes influencing the child's environment, which is also correlated with the child's genes. For example, if a mother and daughter share genes that contribute to their extraverted temperaments, this similarity may contribute to open communication between them. Active and evocative GE correlations reflect situations in which the child's genetically influenced characteristics influence the behavior of others, including their parents. In active GE correlations, the child purposefully seeks out a particular environment, as in the case of children choosing to participate in extracurricular activities that showcase their natural talent. Evocative (also called reactive) GE correlations result when children elicit responses from others. A child with a difficult temperament, for example, may evoke harshness from a mother that wouldn't otherwise have behaved as negatively.

Genetic Influences on Parent–Child Relationships

Background

The importance of parenting on the behavior of children is clear from the extensive literature on the topic. Until recently, most studies examining parenting and child and adolescent adjustment assumed that associations between parenting and child behavior were the result of purely environmental influences on the child. The study of genetic influences on parenting, however, has led many developmental and social psychologists who considered themselves "environmentalists" to acknowledge the importance of findings from behavioral genetics. When genetic and environmental contributions of parenting have been studied, significant genetic influences have been demonstrated for both parent and child behavior. In other words, research suggests that genetically influenced characteristics of children and of parents appear to influence the way that parents treat their children.

Research Constructs

Twin studies of genetic influences on parenting take two approaches: child-based designs and parent-based designs. In a child-based design, the children are twins or siblings, and the focus is on how genetic influences of the children influence how they are treated by their parents. Parent-based designs examine parents who are twins or siblings and thus, the focus is on the influence of the parents' genes on how they parent their children.

Findings

Parental Warmth and Support

Studies have found that genetic influences on parental warmth and support are best explained by passive GE correlation, meaning that a mother may interact with her adolescent in a positive way, at least in part, because of her own genetically influenced characteristics. This suggests that mothers may treat their children with warmth despite the children's own characteristics and behaviors. This is further supported by child-based designs that have found that parents are likely to be equally positive to all of their children independent of genetically influenced characteristics of the children. There is also some indication that evocative GE correlation may be operating for parental warmth and support, although these effects are not as pronounced.

Parental Negativity

Studies have found that evocative GE correlation best explains parental negativity, meaning children evoke negativity from their parents due to their own genetically influenced characteristics. Findings of genetic influences for child-based studies and little or no genetic influences for parent-based designs suggest that parents' negativity is not influenced by parental genotypes but is influenced by, and is a response to, children's genetically influenced characteristics. For example, children with difficult temperaments may

evoke negativity even from parents with strong genetic influences to be warm and supportive.

The finding that the child's genetically influenced characteristics evoke negativity from the mother is particularly relevant for potential prevention and intervention strategies because parents can be taught to respond differently to their children. In other words, the implications of this finding are optimistic considering that the prospect of changing elicited negative parental behavior is far less daunting than that of changing genetically influenced negative parenting.

Parental Control

Parent-based studies on parental control, for the most part, show very little genetic influence originating from the parent. This suggests that the level of control parents exert is primarily a response to genetically influenced characteristics of their children. In other words, parental control is primarily evoked by these characteristics of the child (nonpassive GE correlation). For example, children with behavior problems may cause mothers to be more controlling than they would be with more responsible children.

Genetic Influences on Sibling Relationships

Although modest genetic influences have been found for both negative (e.g., rivalry, hostility, and criticism) and positive (e.g., companionship, empathy, and communication) dimensions of the sibling relationship, shared environmental influences are the most important factors in explaining sibling relationships. The importance of shared environmental influences is consistent with the view that sibling relationships are reciprocal in nature and that, more generally, there exists a shared family climate. Support for a shared family climate is also found in studies examining similarities between mother–child and sibling relationships.

Genetic Influences on Peer Relationships

Peer groups are unique in that, unlike families, peers can select each other based on mutual attraction. Research has demonstrated that adolescents, based on their own genetically influenced characteristics, initially seek out friends with whom they share similarities. Moreover, due to socialization, peers grow to be more alike over the course of a continuing friendship.

To date, there are only a few studies examining genetic and environmental influences on peer relationships, and most have focused on the similarities within the peer group rather than on the quality of the peer relationships. Studies examining adolescent peer group characteristics (similarities within the peer group) have found evidence for substantial genetic influences on parent's perceptions of their adolescents' peer groups. For adolescents' own perceptions of their peer groups, genetic influences were less important and nonshared environmental factors were more important. For peer relationship quality, there are several dimensions of friendship moderately linked to genetic influences, including positivity (validation, caring, warmth and support) and, for girls in particular, behavioral and emotional problems. Certain negative aspects, such as conflict, betrayal, and criticism, are associated with the shared environment. Studies of group affiliations have suggested genetic influences on academic aspirations, delinquency, and popularity, although the methods used to draw these conclusions were somewhat problematic. Future research using refined methods will help to clarify the influences on peers and friends.

General Methodology

The basic influences on behavior, therefore, are genes, shared environment, and nonshared environment. Although for any trait one may be more important than the others, all three influences are considered in behavioral genetic studies examining social behaviors. Exploring family members' genetic relatedness with regard to observable similarities helps researchers estimate the relative ratio of genetic and environmental influences. To this end, researchers use various methods: mainly, family, twin, and adoption study designs.

Twin/Sibling Family Designs

Monozygotic (MZ; identical) twins share 100% of their genes, while dizygotic (DZ; fraternal) twins and full siblings share 50%, on average. Children also share exactly 50% of their genes with each parent. Second-degree relatives such as grandparents, aunts and uncles, and half-siblings are 25% genetically similar, and cousins share 12.5% of their genes, on average. If a trait is largely influenced by genes, the correlation between MZ twins (e.g., twin 1 correlated with twin 2) for that trait should be close to 1.0; for DZ twins, full siblings, and parent—child 0.5; and so on. Accordingly, unrelated children adopted into the same

family do not correlate for genetic reasons. Shared and nonshared environmental influences can also be estimated using twin and family designs. Because shared environmental influences are all environmental (nongenetic) factors that make family members similar to one another, such influences would be indicated by correlations that are similar across all family members living in the same household, independent of their genetic relatedness. While this formula is necessary for estimating the relative effects of genes and environment, it becomes problematic in simple family designs (studies in which there is no variation in the genetic relatedness of family members in the same household), whereby the two factors become indistinguishable since individuals that share many genes (e.g., parents and siblings) typically share their environments as well. Finally, nonshared environmental influences are, by definition, all environmental factors that make family members different, including measurement error. The best test of nonshared environmental influences is MZ twin correlations. Because MZ twins reared in the same family share all of their genes and shared environmental influences any correlation less than 1.0 indicates nonshared environment (and measurement error).

Adoption Designs

Adoption studies are ideal for identifying shared environmental influences. The most common design studies an adopted child reared by genetically unrelated adoptive parents. Any similarity between the child and the adoptive parents must be due to shared environmental factors. Data on the biological parents makes it possible to further parse genetic and shared environmental influences by examining similarities between the adopted child and biological parents and similarities between the adopted child and adoptive parents.

Future Directions

While studying the relative ratio of genetic and environmental influences on behavior and relationships has enhanced our understanding of the social world, researchers are working to use these findings as an avenue to even more specific studies of genetics—*gene finding* and *molecular genetics*. Dramatic technological advances allow researchers to analyze specific genes within DNA. Employing statistical analysis (correlation) to associate specific genes with specific behaviors, researchers hope to identify genes that are important in influencing particular behaviors. Using the results of this process (gene finding), researchers then hope to trace, at a molecular level, the pathways from genes to behaviors. Gene finding and molecular genetics studies are currently under way, and their successes would provide unprecedented insights into behavioral processes.

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See also Hormones and Behavior; Personality and Social Behavior; Similarity-Attraction Effect; Twin Studies

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GOALS

Definition

Goals are a form of self-regulation adopted by humans to achieve specific aims. By focusing people's attention, goals facilitate responses that are compatible with people's objectives. Although the behavior of lower animals is controlled by biological mechanisms, human functioning is more flexible. Humans have the ability to regulate their responses beyond biologically

based propensities. Goals represent one form of self-regulation common in people's daily lives.

While the specific content of people's goals vary considerably, a number of features have been identified by psychologists as common to all goals.

Mental Idea

Goals are mental ideas, or *cognitive representations,* meaning that they are based in the mind. Consequently, goals can only be inferred, rather than observed. Furthermore, goals are restricted to animals that use their mind in the process of regulation. The actions of plant life, therefore, are not seen as goal-directed behavior. A blossoming rose bush, for example, is simply reacting to the conditions in its environment. It responds by reflex alone. By the same token, physiological functions in humans, such as digestion or blood circulation, are not viewed as goal-directed for a similar reason. These functions are carried out automatically, without any thought regarding the future.

Future

When engaging in goal-directed behavior, people take into account future events, behaving in ways that either facilitate or prevent their occurrence. Goal-directed behavior, therefore, does not simply entail an immediate response to a stimulus. Flinching in response to a loud noise, for example, would not constitute goal-directed behavior. Of central importance is the role of a mental image of a future possibility that influences present behavior.

Commitment

Goal commitment refers to the degree to which a person is dedicated to following through on his or her objective. It is only when an individual commits to some action that a goal is adopted. However, not all goals are committed to equally. Level of commitment may vary considerably, and this variability has important implications for effort, persistence, and absorption in the goal pursuit process. While goal commitment requires a conscious decision, once in place, goals may be activated thorough an automatic process, influencing behavior outside an individual's conscious awareness.

Approach or Avoidance

All goals can be categorized as one of two types: approach-focused or avoidance-focused. Approach goals center on the pursuit of a positive outcome, such as scoring *above* a 90 on a math test. In contrast, avoidance goals center on the evasion of a negative outcome, for example, scoring *below* a 90 on a math test. In both cases, the content of the goal is the same. However, the psychological framing differs, which has important implication for the way goals are experienced.

History and Background

Goals have been present throughout the history of psychological thought. Aristotle is often regarded as the first truly psychological thinker, and his writings make clear reference to the goal-directed nature of behavior. For Aristotle, behavior is always purposeful, and imagined future states are viewed as having an important influence on human action. Aristotle used the work of a sculptor creating a statue to illustrate this notion of purpose and directedness. Standing before a block of marble, the sculptor has an idea of what is wanted at the end of the sculpting process. It is this imagined end state that is thought to determine the way that the marble is chiseled as the sculptor produces the statue.

Friedrich Herbart is commonly viewed as the first scholar to advocate for a scientific analysis of mental representations, citing goal-relevant explanations for human behavior. Several of Herbart's contemporaries also made mention of goal-relevant notions, but their main interest was simply in detailing the nature of mental activity.

Goals remained on the periphery of the psychological literature throughout the latter part of the 19th and (very) beginning of the 20th century. When goal-relevant expressions did appear, the term *end* was typically used, or, on occasion, *aim* or *object*. It is in the work of the Würzburg school that goals came to the fore in psychological theorizing and received sustained conceptual and empirical attention.

With the rise of behaviorism in the second decade of the 20th century, however, mental processes, including goals, began to be seen as outside the scope of a scientific psychology. During this time a shift occurred, in which psychology sought to limit itself to observable behavior. Internal mental events such as goals were considered unobservable and, therefore, unscientific.

With time, however, psychologists questioned this viewpoint. Edward Tolman was among the first to do so, observing that behavior "reeks with purpose." As a behaviorist, Tolman sought to account for the seemingly goal-seeking nature of behavior, while continuing to rely on observable behavior. In doing so, he defined

goal-object as the object or situation toward which, or away from which, the organism moved. Tolman's contributions are important in that they helped retain a central place for the goals in psychology, demonstrating that behaviorism and goal constructs were not necessarily incompatible.

A contemporary of Tolman, Kurt Lewin, developed an elaborate, dynamic analysis of behavior that was unabashedly goal-based. Lewin attempted to construct an extensive theoretical account of behavior by focusing on the goals toward or away from which behavior was directed. That is, Lewin thought of goals as the positively or negatively valenced activities or objects that attract or repel the person, respectively.

By the 1930s, the goal construct had come into its own in the psychological literature. The word *goal* was commonplace and was used as a scientific term to describe or explain psychological phenomena. Most subsequent work focused on introducing specific variations of goal constructs or applying the goal construct to the study of various motivational issues.

One additional development is particularly noteworthy: the emergence, in the late 1940s through the early 1960s, of a cybernetic portrait of goal-directed behavior. Cybernetic models use machines as a metaphor for the way goals operate. Thermostats provide a useful illustration. A thermostat has a target temperature (a goal) and regulates its behavior according to this target. The way a thermostat operates is by continuously comparing its current temperature to a target temperature, and if a discrepancy is detected, heat is turned on until the discrepancy is eliminated. Proponents of cybernetic models posit that people possess representations of standards (viewed as goals) for their behavior, and these standards are part of a psychological mechanism that is used to regulate their behavior. Much like a thermostat, one's current behavior is compared to one's standard, and if a discrepancy is detected, corrective action is taken until the discrepancy is eliminated.

Achievement Goals

Achievement goals refer to people's intentions within situations in which the level of competence is assessed. Achievement goals have received a good deal of attention within psychology and are generally distinguished on two levels, each having to do with the way competence is evaluated. The first level has to

do with how competence is defined, and the second level has to do with how competence is valenced.

Competence is defined by one's standard for success. There are three possible standards: an *absolute standard* (i.e., performance compared to the demands of a task), an *intrapersonal standard* (i.e., performance compared to one's past performance or maximum possible performance), and an *interpersonal, normative standard* (i.e., performance compared to others). Within the achievement literature, both absolute and intrapersonal standards are presently collapsed together within a "mastery goal" category, and normative standards are placed within a "performance goal" category.

Competence is valenced by whether it is focused on a positive possibility that one would like to approach (success) or a negative possibility that one would like to avoid (failure). That is, regardless of one's standard for success, goals can either be approach-focused or avoidance-focused.

Combining the definition and valence aspects of competence, psychologists have identified a total of four basic achievement goal categories that are presumed to cover all competence-based strivings. *Mastery-approach goals* represent striving to approach absolute or intrapersonal competence, for example, striving to improve a tennis serve to the best of one's ability. *Mastery-avoidance goals* represent striving to avoid absolute or intrapersonal incompetence, for example, striving not to serve worse than in the past. *Performance-approach goals* represent striving to approach interpersonal competence, for example, striving to serve better than others. *Performance-avoidance goals* represent striving to avoid interpersonal incompetence, for example, striving to avoid serving worse than others.

Achievement goals are thought to have an important impact on the way people engage in achievement activities. Broadly stated, mastery-approach and performance-approach goals are predicted to lead to adaptive behavior and positive outcomes (e.g., mastery-approach goals optimally facilitate creativity and continuing interest, while performance-approach goals optimally facilitate performance attainment). Mastery-avoidance and, especially, performance-avoidance goals, on the other hand, are predicted to lead to maladaptive behavior and negative outcomes, such as selecting easy instead of optimally challenging tasks, quitting when difficulty or failure is encountered, and poor performance attainment.

While achievement goals outline the specific aim and direction of people's competence pursuits, they do not explain why people adopt particular types of achievement goals in the first place. According to the hierarchical model of approach–avoidance achievement motivation, personality factors (such as achievement needs, implicit theories of ability, and general competence perceptions) account for differences in achievement goal adoption.

Achievement needs (or motives) may be used as an illustrative example. Two types of achievement needs have been identified: the need for achievement (the tendency to experience pride upon success) and fear of failure (the tendency to experience shame upon failure). Both of these personality factors influence goal adoption in achievement settings. The need for achievement has been shown to lead to mastery-approach and performance-approach goals, whereas fear of failure has been shown to lead to mastery-avoidance and performance-avoidance goals. Fear of failure has also been shown to lead to performance-approach goals, a need–goal combination that represents an active striving toward success to avoid failure (i.e., active avoidance).

Worth noting is the fact that need for achievement and fear of failure do not directly influence performance in achievement settings. Rather, their influence is indirect. According to the hierarchical model of approach–avoidance achievement motivation, needs influence goal adoption, and it is goal adoption that to leads to differences in achievement outcomes.

Social Goals

Recent work has applied the approach–avoidance distinction to goals in the social domain. According to the hierarchical model of approach–avoidance social motivation, hope for affiliation and fear of rejection are personality factors that influence the degree to which people are motivated to pursue certain goals in their relationships. Social-approach goals (e.g., trying to deepen one's relationships) and social-avoidance goals (e.g., trying to avoid conflict in one's relationships) direct individuals toward potential positive relational outcomes or away from potential negative relational outcomes, respectively. Research on approach and avoidance social goals is just beginning, but the results to date indicate that social-approach goals lead to positive relational events and high relationship satisfaction, whereas social-avoidance goals lead to negative relational events and a higher level of loneliness.

Personal Goals

Personal goals provide another manifestation of the goal construct, referring to the consciously embraced, personally meaningful objectives that individuals pursue in their daily lives. This type of goal has been presented in several different ways, most notably as personal projects, personal strivings, possible selves, and current concerns. Personal goal is meant as a generic equivalent of these methods.

Personal goals are commonly measured by having individuals write short statements indicating what they are trying to do in their daily lives. The manner in which individuals present their goals lexically is thought to correspond to the way that the goal is represented in memory and, accordingly, the way that the goal is utilized in daily regulation. That is, the precise wording that individuals use in listing their personal goals is neither random nor accidental. Rather, it is thought to carry precise information as to the structure and psychological meaning of the goal.

As with any type of goal, a personal goal may be approach or avoidant in nature. Indeed, nearly any possibility that an individual may focus on in daily life may be framed as a positive possibility that he or she is trying to move toward or maintain, or a negative possibility that he or she is trying to move away from or stay away from. For example, a person may articulate his or her goals as "trying to do well in school" and "trying to be respectful toward my mother" or, alternatively, as "trying to avoid doing poorly in school" and "trying not to be disrespectful toward my mother."

The pursuit of avoidance goals has typically been found to result in negative consequences. The focus on negative possibilities inherent in avoidance goal regulation leads to a host of processes that are harmful to the individual's goal attainment, psychological adjustment, and physical health. Such processes are broad in scope and include perceptual processes (e.g., interpreting information as a threat), attentional processes (e.g., heightened sensitivity to and vigilance for negative information), mental control processes (e.g., difficulty concentrating and sustaining focus), memory processes (e.g., biased search for and recall of negative information), emotional processes (e.g., anxiety and worry), volitional processes (e.g., feeling

internally forced or obligated to expend effort), and behavioral processes (e.g., escaping or selecting oneself out of goal-relevant situations).

Using negative possibilities as the hub of goal regulation is also presumed to be inefficient and ineffective, as it provides the individual with something to move away from but not something to move toward, and it does not afford the person a clear sense of progress. Indeed, even if one succeeds at an avoidance goal, one simply experiences the absence of a negative outcome, not the presence of a positive outcome that is needed to satisfy the individual's psychological and physical needs. While avoidance goals are not necessarily always expected to have detrimental consequences, in the main they are expected to produce negative processes that eventuate in negative psychological outcomes.

Ron Friedman
Andrew J. Elliot

See also Achievement Motivation; Self-Regulation

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GOSSIP

Curiosity about gossip seems to center on one question: What "counts" as gossip? Talking about who in Hollywood is heading to the altar? Discussing the odd behavior of a friend at a party? Criticizing a friend's choice of attire? Taking bets on how long a common friend's latest love affair will last? Confiding in a friend about another friend's bizarre eating habits? Discussing news stories about presidential candidates' service records? Mulling over whether one's favorite baseball player uses steroids? This curiosity is not about the definition of gossip per se. It is about categorizing instances of talk about people who are not present in moral terms, innocent talk or sinful slander, purposeful or idle, truth or lies. Not gossip or gossip.

The definition of gossip, for most of us, implicitly includes a moral dimension. And this is precisely what makes gossip difficult to define, especially for those who wish to study gossip. Supreme Court Justice Potter Stewart's "I-know-it-when-I-see-it" approach (to defining obscenity) won't serve social psychologists. Most social psychologists agree that gossip is conversation about people who are not present. And most agree that conversation about people becomes gossip when evaluations, particularly negative ones, creep into the discourse. Saying "John got into every school he applied to" is probably not gossip. But if it were said with a roll of the eyes, it might be gossip. If it were followed by "His parents have *a lot* of money," we would now be in a conversation thick with unflattering evaluations of John. This, to most of us, is gossip.

Gossip can be defined, behaviorally, as informal evaluative comments about people who are not present. One may wish to add to this definition that the comments are negative or unflattering of the person being talked about. However, a deeper appreciation of what gossip is may come from understanding its purpose. Those who have considered the adaptive benefits of gossip point to two main purposes: transmission of information and social bonding. Information about who is doing what and with whom serves us as we plot our own moves through the social landscape. We could get into serious trouble if we didn't know who was romantically interested in whom or who had aspirations of leadership or who was taking more than their share of community resources, for example. Gossip is also a source for learning, and even defining, social norms. This is evidenced by a meta-analysis of anthropological studies that found that the main topics of gossip were "personal qualities and idiosyncrasies, behavioral surprises and inconsistencies, character flaws, discrepancies between actual behavior and moral claims, bad manners, socially unaccepted modes of behavior, shortcomings, improprieties, omissions, presumptions, blamable mistakes, misfortunes, and failures."

Another chief function of gossip, many believe, is to forge and maintain social bonds. The social bonding benefit of gossip may even have been the carrot that drove the evolution of language, according to

Robin Dunbar, evolutionary psychologist. He believes that language evolved for the purpose of talking about other members of the social group and that this allowed our early ancestors to form allies who protected them from harassment from other group members, an inevitable part of group living. It also allowed for the discovery of "freeloaders"—group members who take more than they give—something that would have benefited most everyone in the society.

But why should gossip be *negative* talk about people? One possibility is that, through negative gossip, people trade valuable social information. It is as though they have given each other a little gift. Another possibility is that because they engaged in an activity that many find morally questionable—speaking ill of others—they may have felt like "partners in crime." Talking negatively means that one is sharing a confidence, a private opinion, and hopes that it will stay secret between the gossipers. Talking positively has no such implication. Sharing a secret with someone builds intimacy because it carries with it the implicit message that the listener is trusted.

Yet another possibility is that sharing negative opinions about other people is a form of self-disclosure, and self-disclosure is known to make people feel closer. Feelings about the actions or character of another person may be considered very private to some people, and sharing them may feel like an act of self-disclosure.

A definition of gossip that satisfies everyone may never be achieved. Part of the problem is that the definition of gossip seems to change with perspective. When we talk about people who are not present, we take into account our intentions (a moral consideration) when we decide whether or not what we are saying "counts" as gossip. But from an outsider's perspective, it is impossible to know the motives and intents of the gossipers, so using moral terms to define gossip from this perspective is problematic, particularly for researchers. This entry has suggested a behavioral definition of gossip to address this problem. But a definition of gossip that makes black and white the vast moral gray area in the universe of people talking about other people is left for you to make.

Sarah Wert

See also Autobiographical Narratives; Bad Is Stronger Than Good; Cheater-Detection Mechanism; Group Dynamics; Moral Development; Self-Disclosure

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GRATITUDE

Definition

People experience gratitude when they affirm that something good has happened to them and when they recognize that someone else is largely responsible for this benefit. The source of the benefit is often (but not always) another human. The benefit prompting a grateful response may be the absence of some negative event, as well as the occurrence of a positive favor. Some of the strongest gratitude responses have been found to occur when individuals feel that something bad could have or should have happened to them but did not. Although early research in this area often equated the feelings of gratitude and indebtedness (feeling obligated to repay), recent research has shown that there are important differences between these emotions, and they probably should be seen as distinct states.

Background and Importance

Although gratitude has been a neglected topic in psychology, it appears to be one of the most important of the social emotions. Gratitude has been shown to be a highly valued social trait; people like grateful individuals and tend to disdain those they feel are ungrateful.

Gratitude has been classified as a moral emotion in that it is an emotion that promotes positive interactions among people. Gratitude may be seen as a moral emotion because it is a *moral barometer* (it alerts people to the fact that someone else has benefited them), a *moral motivator* (it encourages people to act positively toward others), and a *moral reinforcer* (when an individual expresses gratitude, it encourages the giver to give again in the future).

It is important to understand that gratitude can be studied as an emotional state (i.e., how grateful a person is feeling right now) and as an emotional or personality trait. Trait gratitude is the disposition toward gratitude, or how easily a person may experience grateful emotions. A person who frequently experiences grateful feelings is someone who could be characterized as a grateful person, or a person high in trait

gratitude. A person low in trait gratitude would be a person who rarely experiences gratitude. Two questionnaires are often used to investigate the disposition toward gratitude: the Gratitude Questionnaire (GQ-6) and the Gratitude, Resentment, and Appreciation Test (the GRAT).

Gratitude Research

Research has been able to identify the situations in which a person is most likely to feel grateful. First, the person must recognize that a benefit has been given to him or her, and the more the person values the benefit, the more he or she tends to feel grateful. Second, gratitude is more likely to be experienced if the person receiving the gift feels that it was given to him or her in good will. In other words, the receiver thinks that the motives of the giver are good; the gift was given for the benefit of the receiver. If the person receiving the benefit feels that it was given for ulterior or irrelevant motives, gratitude is not likely. Similarly, if the receivers of the benefit like the giver, they are more likely to feel grateful toward their benefactor. In addition, if the gift goes beyond the receivers' expectations of the giver, the receivers tend to feel more grateful. It is for this reason that people are more likely to feel grateful toward a new acquaintance for driving them to the airport than one of their parents (because they have greater expectations of their parents). Finally, research has also shown that when a receiver of a benefit thinks that the giver expects some kind of return favor, the receiver is less likely to feel grateful.

Research that has investigated relationships between trait gratitude and other variables has provided a picture of what grateful people are like. Grateful people tend to be more agreeable, prosocial, hopeful, and emotionally intelligent; have higher self-esteem; and are more religious and spiritual. Grateful people also tend to be less depressed, less hostile, less self-centered, and less neurotic. Perhaps most importantly, gratitude has been found to be strongly related to happiness, such that grateful individuals tend to be happier as indicated both by their own admission and also by the reports of others who know them. Researchers have proposed several theories for this relationship. For example, some evidence suggests that gratitude promotes happiness by directing people's focus to good things they have, rather than to benefits that they lack. Gratitude might also enhance happiness by increasing people's enjoyment of benefits. Some have argued that gratitude may help people deal with difficult events in their lives, and some research supports this hypothesis. For example, the unpleasantness of negative memories appears to fade over time more for grateful people than for ungrateful people. Also, grateful people appear to handle trauma better than less grateful individuals. Gratitude is also a common emotion that people experience following a disturbing event. Individuals reported an increase in gratitude following the events of September 11, 2001, and this response appeared to help them deal with its aftermath. Some have also suggested that gratitude might promote happiness by encouraging positive reflections on one's past. Research has shown that grateful people are more likely to recall happy memories.

Several studies have investigated treatments designed to encourage their participants to experience gratitude. Encouraging grateful thinking produces an improvement in mood, and studies encouraging regular grateful thinking over time showed increases in one's happiness and optimism. Experiments have also found that grateful people report more urges to act favorably toward those they know, and gratitude also appears to inhibit the urge to act in harmful ways toward others. Taken together, research suggests that there are many benefits to gratitude. Gratitude appears to be an important factor contributing to one's happiness.

Philip C. Watkins

See also Altruism; Broaden-and-Build Theory of Positive Emotions; Envy; Equity Theory; Happiness; Helping Behavior; Moral Emotions; Prosocial Behavior; Reciprocity Norm

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Grim Necessities

Definition

A grim necessity is an activity with short-term negative consequences but long-term positive payoffs. For example, reading a boring textbook is unpleasant in the short term but rewarding in the long term, because it helps you get a good grade on the exam. Other commonly listed grim necessities are working at a boring job to make money and doing exhausting exercise for long-term fitness.

Usage

Dilemmas of self-control often present a contrast between immediate payoffs and delayed payoffs. According to Roger Giner-Sorolla, these dilemmas can be described either as delayed cost (guilty pleasure) or delayed benefit (grim necessity). His studies have shown that people associate different emotions with different types of consequences. In particular, when participants were asked for examples of activities with more negative short-term than long-term consequences, these grim necessities brought up negative emotions that tended to be more *hedonic.* That is, they dealt with immediate sensations connected with the activity, for example, "bored" and "frustrated." However, the positive emotions they came up with for these activities tended to be more *self-conscious,* or concerned with evaluating one's own actions and qualities, for example, "proud" and "confident." For grim necessities in particular, the greater self-control is shown, the less negative hedonic affect was associated with the activity.

Roger Giner-Sorolla

See also Emotion; Guilty Pleasures; Self-Regulation

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GRIT Tension Reduction Strategy

Definition

Graduated Reciprocation in Tension reduction (GRIT) was proposed by Charles Osgood in 1962 and refers to a method of restoring negotiations between two parties who are deadlocked. GRIT reestablishes negotiations by urging one side to initiate a concession. According to the norm of reciprocity, people are expected to reciprocate benefits from others. Therefore, when one side offers a concession, the other side should feel responsible for making a concession in return, and this exchange encourages the negotiation process to begin again.

History and Modern Usage

Osgood's proposal for GRIT originates in the context of the Cold War and concern about nuclear weapons. Specifically, the United States and Russia tried to surpass each other with advancements in nuclear weapons to feel more secure. Ultimately, this intensifying quest for nuclear weapons threatened the stability of the world. Osgood devised GRIT as a way to calm this escalated tension. GRIT consists of two main steps, which are repeated until the two involved parties reach an agreement. First, the initiating party must announce an intention to cooperate with the other side and make a unilateral (one-sided) concession. The initiating party must also communicate an expectation that the concession will be reciprocated (matched) by the opposing party. Second, the opposing party should reciprocate the concession made by the initiating side. The two sides should continue reciprocating concessions until an agreement is reached.

To make GRIT an effective process, there are some additional conditions that must be met. First, the initiating side should not make a concession that threatens

its own security or ability to defend against a hostile act. The concession should also not indicate weakness, in which case the opposing side may feel motivated to bargain tough (e.g., not make a concession). Second, the initiator of GRIT may have to make a second or third attempt before capturing the attention of the other side. Third, should the other side abuse a cooperative act by the initiating party, the initiator should retaliate and state the purpose of the retribution (i.e., to show that the abuse will not be tolerated). Then, the initiating party should instigate another cooperative act. In addition to drawing on the norm of reciprocity, the effectiveness of GRIT depends on building trust between the two sides. Research indicates a high level of cooperation resulting from GRIT. This strategy has also effectively been used to reduce actual conflicts. For example, Anwar Sadat made an unprecedented trip to Jerusalem in 1977 to establish trust between his nation (Egypt) and Israel. This initiative led the way for a peace agreement between Israel and Egypt in 1978.

Janice R. Kelly
Eric E. Jones

See also Conflict Resolution; Reciprocity Norm

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GROUP COHESIVENESS

Definition

Group cohesiveness (or cohesion) is a social process that characterizes groups whose members interact with each other and refers to the forces that push group members closer together. A lot of work these days is accomplished in groups. Most people have had both good and bad experiences from participating in such group work. One important element that influences one's group work experience is cohesiveness. Cohesiveness has two dimensions: *emotional* (or personal)

and *task-related.* The emotional aspect of cohesiveness, which was studied more often, is derived from the connection that members feel to other group members and to their group as a whole. That is, how much do members like to spend time with other group members? Do they look forward to the next group meeting? Task cohesiveness refers to the degree to which group members share group goals and work together to meet these goals. That is, is there a feeling that the group works smoothly as one unit, or do different people pull in different directions?

Group (or team) cohesiveness was studied extensively and has received a great deal of attention in the social sciences, as evidenced by the hundreds of articles published in the past 50 years in various domains, including sports, education, and work (a quick Google search revealed that there are more than 278,000 hits for "group cohesion" and nearly 120,000 hits for "group cohesiveness").

Factors Influencing Group Cohesiveness

The forces that push group members together can be positive (group-based rewards) or negative (things lost upon leaving the group). The main factors that influence group cohesiveness are members' similarity, group size, entry difficulty, group success, and external competition and threats. Often, these factors work through enhancing the identification of the individual with the group he or she belongs to as well as the individual's beliefs of how the group can fulfill his or her personal needs.

Members' Similarity

The more group members are similar to each other on various characteristics, the easier it is to reach cohesiveness. Through social identity theory, it has been found that people feel closer to those whom they perceive as similar to themselves in external characteristics (age, ethnicity) or internal ones (values, attitudes). In addition, similar background makes it more likely that members share similar views on various issues, including group objectives, communication styles, and the type of desired leadership. In general, higher agreement among members on group rules and norms results in greater trust and less dysfunctional conflict, which, in turn, strengthen both emotional and task cohesiveness.

Group Size

Because it is easier for fewer people to agree on goals and to coordinate their work, smaller groups are more cohesive than larger groups. Task cohesiveness may suffer, though, if the group lacks enough members to perform its tasks well enough.

Entry Difficulty

Difficult entry criteria or procedures to a group tend to present it in more exclusive light. The more elite the group is perceived to be, the more prestigious it is to be a member in that group, and consequently, the more motivated members are to belong and stay in it. This is why alumni of prestigious universities tend to keep in touch for many years after they graduate.

Group Success

Group success, like exclusive entry, increases the value of group membership to its members and influences members to identify more strongly with the team and to want to be actively associated with it. Think how it feels to be part of a winning basketball team!

External Competition and Threats

When members perceive active competition with another group, they become more aware of members' similarity within their group and see their group as a means to overcome the external threat or competition they are facing. Both these factors increase group cohesiveness; leaders throughout human history have been aware of this and have focused the attention of their followers on conflicts with external enemies when internal cohesion was threatened. Similar effects can be brought about by facing an objective external threat or challenge (such as natural disaster).

Consequences of Group Cohesiveness

Cohesive groups have several characteristics. First, members interact more with each other. Cohesive groups develop a supportive communication climate in which people are more comfortable expressing their thoughts and feelings. Second, cohesive groups' members are friendlier and cooperative with each other than are members in noncohesive groups. Members of highly cohesive groups talk positively about their group and its members. Third, cohesive groups have greater influence over their members and pressure them to conform. Fourth, cohesive groups' members are more satisfied and believe that both their personal and group goals are better met compared to low-cohesion groups.

Given these characteristics, it may be not surprising that a general finding that emerged from studying various groups (including sport teams and work groups) is that cohesiveness contributes to positive group processes (e.g., sharing information) and to groups' task performance. Among the reasons for the performance-enhancing effects of cohesiveness are members' increased motivation to perform better in the group, partially due to norms that discourage social loafing on group projects. Another reason for the performance superiority of cohesive groups is members' commitment to the group task, which tends to be higher in cohesive groups; higher task commitment was indeed found to relate to higher task performance. Improved communication and trust allow members to share more and better information with each other, enabling a wider resource pool for the group to use when solving problems. Lastly, the high mutual support among cohesive groups' members in stressful times creates a positive and long-lasting interdependency among team members. On the other hand, in low-cohesion groups, conflicts tend to occur more and develop into dysfunctional interpersonal conflicts more often, discouraging members from sharing information and helping their teammates.

Notwithstanding the generally positive consequences of cohesiveness, there are rare situations in which group cohesiveness may not contribute to higher performance. One such case is found in organizations when teams' norms conflict with organizational goals. Researchers found that when such conflict is high, higher team cohesiveness actually results in lower task performance.

Another source for potentially negative outcomes is the pressure to conform that highly cohesive groups exert on their members. While this adherence to norms has many benefits for the group as a whole, the same mechanism may result in negative social and individual consequences. For example, the fact that abuses against individual members in small communities and military units, which tend to be highly cohesive, can go for long times unexposed, can be attributed in a large part to the tight norms of these very cohesive groups.

Jacob Eisenberg

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GROUP DECISION MAKING

In everyday life, many decisions are made by groups. Some of these group decisions are relatively inconsequential; however, others serve highly critical functions, such as those made by juries, medical teams, political committees, and safety advisory boards. Therefore, much research has been carried out on the determinants and dynamics of group decision making.

History

The scholarly analysis of group decision making can be traced as far back as the philosophies of Socrates and Aristotle. The Socratic dialogue, for example, is predicated on the assumption that collective discourse can lead to greater truths than can solitary reflections. While there are some laudable exceptions, it was not until the emergence of social psychology in the 1930s that the study of group decision making took on its contemporary shape. This approach, initiated by such luminaries as Kurt Lewin, Muzafer Sherif, and Floyd Allport, emphasizes the collection of scientific evidence. Notably, while social psychology is the discipline most closely associated with the establishment and current study of group decisions, many important contributions have come from other fields, including sociology, business, education, and political science.

An early debate centered on the basic question of whether or not groups could be considered "real" in the sense of having scientifically measurable properties that transcend their individual members. Allport argued that they did not. He contended that groups could be wholly understood by studying their member individuals and that this was the only scientifically valid position. Others, including Lewin and Sherif, argued to the contrary. Through the collection of empirical data and persuasive theorizing, the debate was largely settled by the 1950s in favor of the groups approach, although vestiges of the rift remain to this day.

Some early studies on group decision making identified pseudo-group effects, outcomes that seem to emerge from groups but are attributable to statistical principles. For example, when several people combine their inputs to generate a single decision, they will reliably outperform individuals working alone. However, this effect can be attributed to the statistical principle of aggregation. Increasing the size of a group can also lead to a better outcome simply because it increases the probability that one of the individuals will have the requisite skills or knowledge. While such effects are real, they can be explained with statistical principles and are generally rejected as true group effects. However, this does not mean that such effects are unimportant or uninteresting. Indeed, mathematical models of group decision making that incorporate such considerations continue to be developed. Nonetheless, for most contemporary researchers, a true group effect necessarily involves individuals who are interdependent and engaged in social interaction.

Studying Group Decision Making

The methods used to study group decision making include experimental designs, which allow for the systematic manipulation and control of variables, and correlational designs, in which naturally occurring variables are carefully measured (but not manipulated) to see if they are reliably associated. Field studies of actual groups (e.g., committees, juries, clubs, fraternities, teams) typically employ correlational designs but may include experimental variables as well. A case study is an in-depth descriptive analysis of a single group, often one that has made a notorious decision. Each of these basic research designs offers unique advantages and disadvantages. For example, experimental designs allow for superior confidence in determining causality (e.g., Does time pressure cause group tension?); correlational designs allow researchers to study variables of interest that cannot be manipulated (e.g., gender, personality); and case studies, while not suitable as scientific evidence, can provide fascinating

illustrations of established principles or may serve to stimulate scientific investigations.

Researchers in this field also rely on various measurement strategies. Self-report measures involve directly asking group members questions designed to tap variables of interest (e.g., How much did you enjoy the group interaction?). Objective outcome measures include, for example, the quality of a final decision, the length of group discussion, or the tally of votes for a proposed decision. Researchers may also assess ongoing processes by employing a structured observational measure. Such measures require trained observers to code and classify specified bits of behavior that emerge during a group discussion. For example, Robert Bales's influential coding system, called interaction process analysis (IPA), consists of social-emotional categories (e.g., displays of solidarity) and task categories (e.g., asking for suggestions). The IPA remains popular and has served as the foundation for numerous theoretical and methodological advancements, such as the System of Multiple Level Observation of Groups (SYMLOG).

Group Decision-Making Process

According to much research, most decision-making groups proceed through three stages: orientation (defining the situation and procedures), evaluation (discussion of ideas, opinions), and decision (deciding what to do). A host of alternative stage models have been proposed, the most notable of which suggests four phases: forming (task identification), storming (dealing with conflict, emotional reactions), norming (developing cohesion, expressing opinions), and performing (solving the problem). Despite variations in terminology and specified number of stages, the various models share the idea of an initial phase that defines the problem, a middle phase (or phases) that involves working on the problem, and a final stage in which a decision is made.

There is clear evidence for value of the initial stage. Groups that devote relatively more time and effort to orientation issues generally produce higher-quality solutions and are generally more satisfied with the interactions and end result. Unfortunately, research also indicates that most groups seldom discuss orientation issues or strategies.

For middle stage processes, it has been demonstrated that varied contributions, critical appraisals,

expressions of commitment, and ongoing assessments of performance all facilitate effective group decisions. However, studies have shown that groups also frequently engage in counterproductive processes at this stage, such as procrastinating, ignoring plausible solutions, withholding critical comments, trivializing the discussion, or avoiding responsibility for the decision.

The most notable aspect of the final stage is the implementation of a decision rule (or social decision scheme) that dictates how the preferences of individual group members will be combined to generate a single collective decision. The most prominent explicit decision rule across all types of human groups is the majority rule (or the closely related plurality rule). This is one of several voting rules, in which each group member receives one vote and the alternative with the most votes is adopted by the group. There is good evidence that the majority rule yields the most efficient and accurate outcomes across a range of conditions. Other explicit rules include consensus (discussion, usually with compromise, until unanimous agreement is reached), averaging individual inputs (some midpoint of the expressed preferences is calculated), and delegation (an individual group member, such as a leader or expert, or subgroup, is given authority to decide for the group). The "truth wins" rule is an implicit rule in which the correct decision emerges and is adopted, as its correctness is recognized by the group as a whole.

Little research has been conducted on how decisions, once made, are actually implemented or carried out. There is evidence that implementation is more successful if group members are closely involved in the decision-making process. Reluctance is more likely if group members are simply ordered to implement a decision that they had no role in determining. Recognizing this potential, many organizations now utilize such strategies as quality circles, autonomous work groups, self-directed teams, and total participation groups.

Group Polarization

Group polarization refers to the well-established principle that, after a group discussion, people tend to take more extreme positions compared to their prediscussion inclinations. Thus, for example, a group of moderately prejudiced individuals will become more strongly prejudiced after group discussion, whereas a group of individuals somewhat low in prejudice will

become even less prejudiced after a discussion. The implications for group decision making are clear: A group of individuals leaning somewhat toward a particular decision (e.g., to initiate a conflict, make an investment, declare a defendant guilty, not hire a candidate) is likely to become more solidified and extreme in that position as a function of group discussion.

After decades of research, two primary determinants of group polarization have been identified. According to the persuasive arguments or informational influence explanation, the group discussion generates a large pool of arguments or information that supports the initial proclivities of the group members. This exposure strengthens each member's confidence in the correctness of his or her view, which leads to a more extreme stance. Thus, this explanation stresses the desire to be correct as a motivating force. The social comparison or normative influence explanation suggests that group members determine what an appropriate stance is by comparing their own views with the views of others. They then tend to shift their views to be more in line with that of the group as a whole. This explanation emphasizes the desire to be liked or to be held in high esteem, which acts as a motivating force.

Which of two major determinants will have a stronger effect depends, in part, on the type of decision under discussion. Research suggests that persuasive arguments have a greater influence on groups deliberating intellective tasks (problems with relatively objective, factual solutions) or when the group is more task- than friendship-based. Social comparison processes have a greater impact on groups dealing with ambiguous or judgmental tasks (problems with a relative emphasis on values, tastes, preferences), or when the individual's group identity is more salient than his or her personal identity.

Groupthink

The term *groupthink* was brought into prominence by researcher Irving Janis who examined several infamously bad group decisions, including those associated with the Pearl Harbor bombing, the Vietnam War, and the Bay of Pigs invasion. According to Janis, groupthink occurs when the members of a group are so intent on reaching unanimity regarding a decision that they fail to critically appraise the potential flaws of their decision or to seriously consider alternative

courses of action. Since Janis's work, the concept has been used to explain several other disastrous real-world group decisions, including the launching of the Space Shuttle *Challenger* and the intelligence failures leading up to 9/11 and the Iraq war.

In theory, the following factors increase the likelihood of groupthink: a high degree of social cohesion or comradery among the group members, isolation of the group from outside scrutiny, and a biased group leader who strongly favors and promotes a particular decision outcome. The symptoms of groupthink include an illusion of invulnerability and morality ("We can't possibly fail" and "We are morally justified in our decision"), constrained flow of information (don't rock the boat), self-censorship (opposing opinions are avoided, minimized, or ridiculed), mindguards (group members who squelch dissent), and faulty analyses of goals, processes, and information.

Although the theory of groupthink has been quite influential and has enjoyed popular appeal, direct empirical evidence for it is mixed. This is partly due to the fact that the highly stressful and consequential situations upon which the theory was developed are difficult to replicate in laboratories that could allow for precise scientific study. Many contemporary researchers have opted to incorporate aspects of the theory into more general models of group decision making.

Minority Influence

Minority influence refers to those instances when a group's decision is substantially influenced by the views of an individual or a small subset of individuals that are not in line with the views of most group members. A good fictional illustration of this phenomenon can be seen in the 1957 movie *Twelve Angry Men*. In this film, 11 jurors quickly agree on the guilt of a defendant but are slowly influenced by the contrary views of a lone juror. About a decade after the film was released, Serge Moscovici, a prominent European social psychologist, formulated a theory of minority influence and conducted a series of classic studies that empirically demonstrated its power. Subsequent studies have continued to demonstrate that a minority position can indeed change the viewpoint of the majority.

Research has shown that minority influence is most likely to occur when the person or persons holding the converse opinion are steadfast in their views, but do

not appear overly dogmatic or rigid, and are willing to compromise. Minority views also are more likely to have an influence on the majority if they offer a compelling argument against the majority's position, the minority position is held by more than one group member, and there is not an obvious selfish explanation for the minority position (e.g., the minority would benefit financially).

Even under the best of circumstances, a minority viewpoint may not be accepted. And even if accepted privately, publicly expressed acceptance may be hindered by the fear of disapproval by the larger group or powerful leaders. Nevertheless, there is good evidence that even if a minority position is not fully or even partially adopted immediately, the process may stimulate more in-depth and creative thinking about the issues under consideration and can lead to more long-term shifts in opinions.

Information Processing in Groups

To help explain certain decision-making processes, some researchers conceptualize decision-making groups as collective information processors. One prominent model in this vein considers situations in which different members of a group are responsible for different domains of knowledge. Their combined cognitive effort of collecting, analyzing, and communicating information is termed a *transactive* (or collective) *memory system* (TMS). In short, a TMS is a cooperative division of mental labor. Research suggests that such systems have limited benefits with newly established or short-term groups but do benefit long-term groups. It seems that as a group stays together over time, the members become more proficient at coordinating their cognitive efforts, more trusting in their mutual reliance, and typically improve in their decision-making performance.

Relatedly, the information sampling model was developed, in part, to examine the commonly held assumption that group members tend to pool their unique bits of knowledge and this leads to higher-quality decisions. Indeed, studies confirm that the extent to which unshared information (information held by only one or a few members of the group) is discussed is a good predictor of ultimate decision quality. However, consistent with the model's predictions, studies have also found that groups tend to spend an inordinate amount of time discussing shared information (information that each member of the group possessed) and very little time discussing unshared information. This information sampling bias leads to faulty decision-making outcomes (sometimes referred to as the *common knowledge effect*). There is some evidence that the sampling bias can be mitigated if the decision task is intellective rather than judgmental and if the group is motivated to generate the correct solution.

Jay W. Jackson

See also Decision Making; Group Dynamics; Group Polarization; Groupthink; Minority Social Influence; Research Methods; Transactive Memory

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GROUP DYNAMICS

Definition

Group dynamics are the influential actions, processes, and changes that take place in groups. Individuals often seek personal objectives independently of others, but across a wide range of settings and situations, they join with others in groups. The processes that take place within these groups—such as pressures to conform, the development of norms and roles, differentiation of leaders from followers, collective goal-strivings, and conflict—substantially influence members' emotions, actions, and thoughts. Kurt Lewin, widely recognized as the founding theorist of the field, used the term

group dynamics to describe these group processes, as well as the scientific discipline devoted to their description and analysis.

History and Background

People have wondered at the nature of groups and their dynamics for centuries, but only in the past 100 years did researchers from psychology, sociology, and related disciplines begin seeking answers to questions about the nature of groups and their processes: Why do humans affiliate with others in groups? How do groups and their leaders hold sway over members? To what extent is human behavior determined by instinct rather than reflection and choice? What factors give rise to a sense of cohesion, esprit de corps, and a marked distrust for those outside the group?

The results of these studies suggest that groups are the setting for a variety of individual and interpersonal processes. Some of these processes—such as collaborative problem solving, social identity development, coordination of effort and activities in the pursuit of shared goals, and a sense of belonging and cohesion—promote the adjustment and welfare of members, whereas others—the loss of motivation in groups (social loafing), conformity, pressures to obey, and conflict—can be detrimental for members. Some of these processes also occur within the group (intragroup processes), whereas others occur when one group encounters one or more other groups (intergroup processes). Because groups are found in all cultures, including hunting–gathering, horticultural, pastoral, industrial, and postindustrial societies, group processes also influence societal and cultural processes.

Interpersonal Processes in Groups

The processes that take place within small groups vary from the subtle and ubiquitous (found everywhere) to the blatant and exceedingly rare. Initially, as groups form, social forces draw people to the group and keep them linked together in relationships. These *formative processes* work to create a group from formerly independent, unrelated individuals. In some cases groups are deliberately formed for some purpose or goal, but in other cases the same attraction processes that create friendships and more intimate relationships create groups.

Once the group forms, *normative processes* promote the development of group traditions and norms that determine the kinds of actions that are permitted

or condemned, who talks to whom, who has higher status than others, who can be counted on to perform particular tasks, and whom others look to for guidance and help. These regularities combine to form the roles, norms, and intermember relations that organize and stabilize the group. When the group becomes cohesive, membership stabilizes, the members report increased satisfaction, and the group's internal dynamics intensity. Members of groups and collectives also tend to categorize themselves as group members and, as a result, identify strongly with the group and their fellow group members. These *social identity processes* result in changes in self-conception, as individualistic qualities are suppressed and group-based, communal qualities prevail.

As interactions become patterned and members become more group-centered, their response to *social influence processes* is magnified. Group members are, by definition, interdependent: Members can influence others in the group, but others can influence them as well. As a result, individuals often change when they join a group, as their attitudes and actions align to match those of their fellow group members. Solomon Asch, in his studies of majority influence, found that these influence processes exert a powerful influence on people in groups; approximately one third of his subjects went along with the majority's incorrect judgments. Stanley Milgram's research also demonstrated a group's influence over its members. Volunteers who thought they were taking part in a study of learning were ordered to give painful shocks to another participant. (No shocks were actually administered.) Milgram discovered that the majority of people he tested were not able to resist the orders of the authority who demanded that they comply.

Groups are not only influence systems but also performance systems. Group members strive to coordinate their efforts for the attainment of group and individual goals, and these *performance processes* determine whether the group will succeed or fail to reach its goals. Robert Freed Bales, by observing the interactions of people meeting in face-to-face groups, identified two common core behavioral processes. One set of behaviors pertained to the social relationships among members. The other set, however, concerned the task to be accomplished by the group. These two constellations of behaviors are also core elements of *leadership processes,* for group leaders strive to improve the quality of relations among members in the group as well as ensure that the group completes its tasks efficiently and effectively.

Conflict processes are also omnipresent, both within the group and between groups. During periods of intragroup conflict, group members often express dissatisfaction with the group, respond emotionally, criticize one another, and form coalitions. If unresolved, the conflict may eventually result in the dissolution of the group. During periods of intergroup conflict, the group may exchange hostilities with other groups. Competition for scarce resources is a frequent cause of both intragroup and intergroup conflict, but the competition–hostility link is much stronger when groups compete against groups rather than when individuals compete against individuals (the discontinuity effect).

The Field of Group Dynamics

Lewin used the term *group dynamics* to describe the way groups and individuals act and react to changing circumstances, but he also used the phrase to describe the scientific discipline devoted to the study of these dynamics. Group dynamics is not a prescriptive analysis of how groups should be organized—emphasizing, for example, rules of order, democratic leadership, or high member satisfaction. Nor does it stress the development of social skills through group learning or the uses of groups for therapeutic purposes. Rather, group dynamics is an attempt to subject the many aspects of groups to scientific analysis through the construction of theories and the rigorous testing of these theories through empirical research.

Donelson R. Forsyth

See also Groups, Characteristics of; Leadership; Social Identity Theory

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GROUP IDENTITY

Definition

Group identity refers to a person's sense of belonging to a particular group. At its core, the concept describes

social influence within a group. This influence may be based on some social category or on interpersonal interaction among group members. On one hand, if we consider the case of athletic teams, a student at a university that participates in popular forms of competition such as football or basketball may identity with his or her team during contests with rival schools ("We really rocked in the Banana Bowl Classic. We took on all comers and whipped them!"). Classic rivalries such as Michigan versus Ohio State in football or Duke versus North Carolina in basketball are excellent examples of instances that produce strong identification based on a social category.

On the other hand, students can identify with a group created to conduct experiments in an animal learning laboratory course. By working together closely, students may come to identify with their lab group ("We finally finished our lab report and I bet it ranks among the best in the class!"). Although group identification is not always based on competition, identification is based on social comparison. These examples serve as clear illustrations of the "us versus them" experience that sometimes accompanies the identification process in intergroup situations.

Research History

Historically, social psychologists have studied social influence processes relative to whether individual or group outcomes are maximized. Dorwin Cartwright and Alvin Zander suggested that relations among individuals in a group make them interdependent on one another. Harold Kelley and John Thibaut found that relations among members of a group were more often than not a function of the basis and outcome of interpersonal exchanges. In this light, social comparison, norms of exchange, and communication can forge common bonds among group members. Friendship groups are one example of how social influence processes produce identification.

In contrast to this dynamic view, John Turner offered that self-categorization theory provided a powerful explanation of when and why members identify with groups. From this perspective, people join groups that represent unique and sometimes powerful social categories. Members are attracted to and influenced by the behaviors of such groups. Consider, for example, the political situation of Israel and the Palestinians. Being Jewish or Arabic in this part of the world comes with a set of cultural, religious, and attitudinal expectations that create consistency within each group and

diversity between the two. A second example is the distinction between being a member of the Republican versus the Democratic political party.

Generally, both social influence and social categories serve to create group identity. A U.S. citizen of Mexican descent may or may not support citizenship for illegal Mexican immigrants. Discussions whereby attitudes and the consequences for immigration are revealed could serve to clarify the identity process and lead to a definitive position on the issue. Thus, some combination of both research traditions probably account for group identification depending on the circumstances.

Context and Consequences of Group Identity

Jennifer Crocker and others have demonstrated that group identity is part of how people feel about themselves. Group identity permits one to be connected to a broader slice of society. These connections may produce feelings ranging from pride to prejudice. In wars between ethnic or religious groups, individuals are prepared to die for the sake of their group identity. These powerful emotional reactions have prompted some groups to attempt to manage group identity. An unfortunate example is the use of suicide bombers by terrorist organizations.

In situations involving intergroup competition, members may distance themselves from a group when it is performing less well than others. Alternatively, when a group receives threats from factions external to the group, members may react by increasing identification to protect the value of the group. Henri Tajfel and Turner have reported that members manage threats to a group's value by changing some aspect of how a group is compared to other groups. Michael Hogg suggests that the specific strategies a group uses are a function of how a group is organized (e.g., boundaries, composition, authority). A growing body of research indicates that social context is an important factor in the process of group identification.

Penelope Oakes contends that perceptions of similarity to other people in a given social context provide a basis for construing oneself as being part of a group. Caroline Bartel describes the nature of people's conversations soon after the attacks of September 11, 2001. In her view, people focused on exchanging information, speculating on who was responsible and discussing how the city would handle this crisis. In this setting, the social identity of "New Yorker" became a salient and context-appropriate group to which people felt an increasing sense of belongingness in the days after the World Trade Center attacks.

Focusing on a particular type of group identity, organizational membership, Bartel investigated how experiences in community outreach affected the identity process of employee volunteers. She found that intergroup comparisons with clients (emphasizing differences) and intragroup comparisons with other members of the organization (emphasizing similarities) changed how members construed the defining qualities of their organization. Supervisors reported higher interpersonal cooperation and work effort for members whose organizational identification became stronger. These results suggest that identification processes operate in everyday work contexts.

A group identity is one of the reasons that people donate to charitable causes, support friends and family, and exhibit helping behaviors toward those with whom they identify. Alternatively, Marilyn Brewer points out that group identity, precisely by creating an "us versus them" mentality, can produce conflict, discrimination, and prejudice. One need only spend a few minutes watching the national news to see versions of group identification. U.S. citizens boycotted Aruba because of the disappearance of Natalie Holloway. In Iraq, terrorists have killed, kidnapped, and beheaded those sympathetic to U.S. efforts to establish a democracy. Finally, international soccer games often result in a sea of violence after a match. Clearly, group identity will continue to serve as an important guide to relations within a group, relations between groups, and even relations between countries.

Richard Saavedra

See also Intergroup Relations; Social Categorization; Social Comparison

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GROUP PERFORMANCE AND PRODUCTIVITY

Task performance or the outcome of some behavioral or intellectual goal is a key function of many groups. Task-performing groups include various decision-making groups, sports teams, and work teams. One would expect groups to benefit from their multiple and potentially complementary skills. It is true that the more able or skilled the group or team members are, the better the group is. Yet researchers have shown that there are a number of factors that inhibit productivity in groups. However, groups can also reach high levels of productivity under the right conditions and with the right group member composition.

There is an endless range of tasks that groups could potentially perform. Some of these require a simple addition of effort, whereas others require that each group member fulfill a particular role. On some tasks, the focus may be on quantity or speed of output, and on others, the concern may be with quality of work. Some tasks are mainly cognitive in that they require some degree of ideation, whereas others may be mostly behavioral (e.g., sports or music performance). According to Ivan Steiner, the effectiveness of groups may depend on the nature of the task they are required to perform. Group task performance may often be less than optimal because of two types of process losses that occur in groups: coordination and motivation. When group members work together, they have to coordinate with one another, and this requirement may make it difficult for each member to contribute his or her best effort. Group members may also be less motivated in groups than they would be if they were working by themselves.

Productivity in Task-Performing Groups

When someone works in a large group and each individual's performance is combined with that of others, a person may be less motivated to work hard on behalf of the group. This type of motivation loss is known as *social loafing* or *free riding*. Social loafing has been found to increase with the size of the group, the extent to which a person's performance is anonymous, and the degree to which the task is seen as challenging. According to Kipling Williams and Steven Karau,

a person's motivation level in groups depends on the extent to which he or she believes the group goal can be attained and how much the person values this goal. That is, as long as group members perceive that there is an incentive to work hard, they will not loaf. This incentive to work hard can be increased by evaluating the work of group members individually. Generally there is a strong relationship between an individual's level of effort in the group and the personal consequences for this level of effort.

When group members are accountable to one another or in competition with one another and have challenging goals, they may in fact have increased motivation in groups. Individuals may also compensate for the lack of effort on the part of other group members if they particularly value the group goal. Similarly, a low-ability group member may increase his or her effort if the group member thinks that a small increase in his or her effort will be important to the success of the group.

When group members work together, they have to mesh their various talents and perspectives in addition to coordinating their group activities. Groups have to decide who does what, when, and how. This is seen clearly in sports teams and highly trained military units that require careful coordination for success. A lack of effort or mistake in coordination by one or more group members can mean failure for the group. Research has documented several of these types of coordination problems. Garold Stasser has shown that groups do not fully share their unique knowledge but tend to focus on what they have in common. This may be because the discussion of shared information makes group members feel more comfortable and validated. In group decisions, individuals often are more concerned about being agreeable than being right. In the case of problem solving, someone with a correct answer often has a hard time persuading the group of its veracity unless it can be easily demonstrated and/or support is gained from at least one other group member. In group task performance situations, groups are also faced with the problem of coordinating the input of individual group members into the group task. For these reasons, it is not difficult to see why so few studies have been able to show group synergy cases in which the performance of interacting groups exceeds the combined performance of individual members.

Today many people do most of their work on computers, including a lot of information exchange with coworkers. How effective is such electronic group

interaction? For tasks that are fairly individualistic, such as generating solutions to simple problems or idea generation, the absence of coordination issues makes the electronic medium beneficial. However, for more complex tasks requiring decision making or negotiation, computer interaction does not work as well. The computer format makes it difficult to deal with all of the interactional subtleties required in these situations because there are no nonverbal communication channels available to augment the group's verbal interaction.

Group Brainstorming: Productivity in Idea Groups

Group brainstorming represents one type of group activity that nicely demonstrates the role of various group factors. Brainstorming involves the generation of novel ideas by expressing thoughts as they occur, without concern for immediate evaluation. The goal is to generate a large number of ideas that can subsequently be used as a basis for selecting the most useful ideas. Although effective brainstorming instructions enhance the number of ideas generated, the group product is typically significantly less than the total number of ideas generated by the same number of individuals brainstorming alone. This is called a production loss and seems to be the result of a number of procedural and motivational factors. Group members may be apprehensive about sharing novel ideas in groups for fear that others may evaluate them negatively. They may not exert a full effort because it may be lost in the overall group performance. In fact, there may be a tendency for performance to go in the direction of the low-performing group members. A major factor appears to be the interference or production blocking that results when individuals compete with each other for opportunities to share ideas during the group exchange process. Only one person can effectively share ideas at one time, and people may forget ideas while waiting their turn.

All of these factors suggest that group brainstorming is a pretty futile exercise. However, there is some reason for hope since exposure to ideas from others should stimulate additional ideas. Ideas from others may remind a person of areas of knowledge that he or she had not considered or may allow a person to combine his or her knowledge with the knowledge of other group members. This should be particularly beneficial if group members have diverse backgrounds or expertise. Cognitive stimulation effects have been observed, especially in a period of reflection after group interaction since such a session allows for a full consideration of the relevance of shared ideas to one's own knowledge base. Group brainstorming on computers may also benefit the process, especially with large groups. Computer brainstorming avoids the interference effects of face-to-face brainstorming and allows a convenient process for subsequent individual reflection. Similar benefits can be gained by exchanging ideas using slips of paper.

The brainstorming literature thus suggests that groups have considerable creative potential. However, groups need to overcome some natural tendencies, and the interaction needs to be structured to optimize the effective processing of exchanged information. Several other factors are also helpful. Groups should have leaders or facilitators that can effectively guide them to interact in a most effective way. Groups should feel psychologically safe to express any and all ideas, so some prior group experience that reinforces feelings of psychological safety may be useful. This is particularly important when group members experience emotional conflicts based on their diverse perspectives. Exposure to conflicting perspectives can increase creative thinking in groups. This is especially true when all group members are committed to the group's goal. Groups need to be aware of their differential expertise and be motivated to share it. A collection of individuals actually has a greater capacity for memory than any one individual alone. Groups who take advantage of this capacity, and know which members are good at what, will outperform those groups who do not utilize these knowledge stores. Group composition is also a critical factor. Individuals who are positively inclined to groups or are very comfortable in groups tend to be less inhibited in sharing their ideas. When groups are demographically diverse, as in the case of ethnic diversity, group members may be a bit uncomfortable and may not benefit fully from the diverse perspectives available to the group. Prior experiences that allow for increased familiarity and some kind of cohesive bonding may eliminate such inhibitory effects of diversity.

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Kelly Trindel

See also Brainstorming; Groupthink; Social Loafing

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GROUP POLARIZATION

Definition

Group polarization occurs when discussion leads a group to adopt attitudes or actions that are more extreme than the initial attitudes or actions of the individual group members. Note that group polarization can happen in the direction of either riskiness (risky shift) or conservativeness. One example is the way in which unruly mobs (e.g., lynch mobs) often commit horrendous acts of violence that no individual member would have been brash enough to attempt (the kidnapping and hanging of humans by the neck until the point of death). Another example is the way in which relief agencies often attempt and accomplish wonderful acts of benevolence that no individual group members would have been ambitious enough to deem possible and then attempt, for example, providing food, clothing, and long-term housing to survivors of natural disasters.

Explanation

One explanatory reason for group polarization is the sharing of persuasive arguments. For example, when the majority of a group's members are initially like-minded and present arguments (a) that support the attitude or action, and (b) that other group members have not yet considered, then the group members' initial attitudes will become stronger. Thus, the attitudes of the group, as a whole, will be stronger compared to the individually assessed attitudes of the members. Note also that during the sharing of persuasive arguments, group members may have a tendency to reiterate, at least in part, the arguments presented by other group members. This repetition of ideas also can strengthen the group's and individuals' attitudes. It is important to note that when the majority of the group initially is not in agreement and, instead, is split on an issue, depolarization can occur as a result of group members trading persuasive arguments. Depolarization refers to a shift away from the extremes and toward the middle.

Another explanatory reason for group polarization is the influence of social comparison. For example, one group member may assess other group members' attitudes and then adopt a similar or more extreme attitude. People have a tendency to like those who are similar to themselves. It follows, then, that if people want to be liked by group members, one way to accomplish this is to have beliefs or attitudes that are consistent with those of the group.

A number of things factor into whether making persuasive arguments or social comparisons will have a more polarizing effect on the group: the nature of the task (judgmental vs. intellective), the goal of the group, what the group considers more important (group cohesion vs. making correct decisions), what the individual group members consider more important (group cohesion vs. making correct decisions), and the nature of the response required of the individuals (public vs. private). Persuasive arguments tend to be most effective in situations in which the nature of the task is intellective, the group values accuracy more than cohesion, the individuals value accuracy more than cohesion, and private responses will be given. Social comparisons tend to be most effective in the situations in which the nature of the task is judgmental, the group values cohesion more than accuracy, the individuals value cohesion more than accuracy, and public responses will be given.

Culture, Gender, and Age

The direction of the attitude shift is influenced by cultural variables. Individualistic cultures (North American countries such as America and Canada) have a tendency to value independence and risk more than dependence and caution. Collectivistic cultures (Asian countries such as Taiwan or South American countries such as Argentina and Brazil) tend to value dependence and caution more than independence and risk. Research by Lawrence K. Hong in 1978 demonstrated that groups comprising individualistic culture members are more likely to experience risky shift, and groups comprising collectivistic culture members are more likely to experience cautious shifts. The

direction of attitude shift is also influenced by gender and age. Research by Margo Gardner and Laurence Steinberg suggests that men are more likely to experience risky decision making compared to women, and younger persons (children, teenagers, and young adults) are more likely to experience risky decision making compared to older persons (persons aged 24 and older). It is important to note that the gender difference appears to decrease as age increases.

Evidence

Traditionally, one of three types of methodologies has been used to illustrate group polarization effects: hypothetical choice scenarios, self-report behaviors, and behavioral observation. Hypothetical choice scenarios require group members to select one of two imaginary options (riskier vs. safer) or to choose a percentage or level of risk in an imaginary scenario. For example, given a scenario about a sick woman who has an opportunity to have an operation that could either kill her or completely cure her, group members are asked whether or not they would endorse having the operation. Alternately, given the same scenario, group members are asked the lowest probability of success they would consider before endorsing the operation. The self-report behaviors method requires people to report how often they engage in risky behaviors. The behavioral observation method requires external observers to observe and assess how often, or to what extent, people engage in risky behaviors.

Implications

Group polarization addresses ways in which a group of individuals interacts and influences the evolution of more extreme attitudes and actions. This concept is relevant to the topics of attitude strength, attitude extremity, and attitude change.

Dee Lisa Cothran

See also Attitude Change; Collectivistic Cultures; Group Cohesiveness; Group Decision Making; Influence; Research Methods; Risky Shift; Social Comparison

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GROUPS, CHARACTERISTICS OF

Definition

There is no consensus among social psychologists on the defining characteristics of a group. Nearly all definitions, however, emphasize that a group is not a mere aggregation of individuals. Rather, two or more individuals become a group to the extent that they are bonded together in some way, which generally means that they interact and influence one another and share perceptions of themselves as a group. By these criteria, one's immediate family is a group, and so are a sport team, an airline flight crew, and a support group. But a social category such as members of the same race or gender is not a group—nor is an audience attending a concert, the line of people at a ticket window, or all the students at a university. Recognizing that such distinctions are not as clear-cut as they appear, some social psychologists have argued that various social aggregates are best viewed as falling along a continuum of groupness based on certain characteristics.

Background and History

The idea that groups have properties distinct from those of their individual members was controversial in the early history of social psychology. Focusing on Gustave LeBon's concept of the group mind, psychologists in the 1920s debated the epistemological status of groups. One side of the debate argued that groups are real entities with emergent characteristics; the concept of the group mind, for example, suggests that groups have a mind of their own, a unifying mental force that transcends the consciousness of the individuals that constitute the group. The other side of the

debate denied the reality of groups, contending that only individuals are observed, not groups; psychological processes occur only in individuals, and actions or processes attributed to groups are nothing more than the sum of actions of the individual group members.

Eventually the concept of group mind was rejected, primarily because there was never any solid scientific evidence to support it. As research on groups flourished in the 1930s, 1940s, and 1950s, researchers accepted the reality of groups and identified several verifiable group properties. Much of this research was influenced by Gestalt psychology, a school of thought that emphasizes that an individual's experience consists of integrated whole patterns that are not reducible to the sum of elements of the whole. One line of inquiry proposed, for example, that a bunch of people constitutes a group to the extent that they form a Gestalt; that is, they are perceived as being a coherent entity rather than independent, unrelated individuals. Furthermore, individuals' intuitive perceptions of the quality of groupness depend on the extent to which a collection of people possesses certain group characteristics, including small size, similarity, a high level of interaction, and shared goals.

Group Size

In general, the larger the collection of people, the less likely they are to possess other characteristics that define a group and the less likely they are to be perceived as a group. Research indicates that most groups are small, usually two or three people and seldom more than five or six. In fact, much of the research on groups focuses on groups of this size or slightly larger, such as families, friendship cliques, work crews, and committees, in which people engage in regular face-to-face interaction. As group size increases, the nature of the group changes. It becomes less intimate and satisfying to members, and it becomes more complex, its activities more difficult to coordinate.

Group Member Variability

Each member brings to the group personal attributes such as his or her sex, age, race, and education as well as opinions, interests, and abilities. Research shows that members of the same naturally occurring group tend to be similar to one another on such qualities but different from members of other groups. Ingroup homogeneity is thought to exist for a variety of reasons: Similar people are attracted to similar activities

that bring them together; they are recruited from the same social network, which also tends to be similar; and similarity increases satisfaction and commitment to the group. Diversity within groups can negatively affect relations among group members, creating miscommunication, division, and conflict, but by providing a variety of skills and knowledge, diversity also can make a group more flexible and innovative and better able to accomplish group tasks.

Group Structure

Perhaps the most essential defining characteristic of a group is the pattern of relationships among group members, referred to as *group structure*. Patterned relations may exist along several dimensions—for example, attraction, communication, and power—so that social psychologists seldom think of groups as a unitary structure.

Group Cohesion

The dimension of group structure most often studied is a group's cohesion or cohesiveness. Cohesion derives from the pattern of attraction of members toward one another and toward the group as a whole; in a cohesive group, members like one another, are tightly knit, identify with the group, and want to remain in it. Compared with groups low in cohesion, highly cohesive groups, such as adolescent peer groups, sport teams, and military squads, are more satisfying to their members but also have greater influence over members and produce greater pressures to conform. In general, highly cohesive groups are more productive and outperform less unified groups with one notable exception: Cohesive groups are less productive when group norms support a low level of productivity.

Attraction Structure

General attraction to the group is indicative of group cohesion or unity, but variations within the group in how much members like or dislike one another is indicative of a form of structural differentiation. By asking group members who they like best and least or with whom they would choose to work, social psychologists have identified patterns of interpersonal attraction within groups, including the formation of subgroups or cliques. As groups increase in size and diversity, cliques are increasingly likely to form. Members of cliques tend to reciprocate choices (if A

likes B, B likes A) and also tend to be more similar to one another than to other members of the group.

Role Structure

Within every group, members develop expectations concerning how people in particular positions ought to behave. These shared expectations, called *roles*, may be defined formally, as in most work groups, or may evolve over time and be tacitly understood. Airline flight crews, for example, often consist of three positions—captain, first officer, and flight engineer—each of which is expected to perform specific tasks related to flying a plane. In many groups, various group roles such as initiator, coordinator, and harmonizer emerge to meet two basic demands: to accomplish the group's task and to maintain harmonious relationships among group members.

Status Structure

Roles are often associated with status, which refers to a person's power (ability to influence others) and authority (the right to exert power) within a group. Virtually all groups develop a status structure in which some members have higher status than others. In an airline flight crew, there is a clear status hierarchy, with the captain, who makes major command decisions and leads the crew, on top, and the flight engineer on the bottom. Two general factors seem to affect the development of status in most groups: the characteristics and abilities members bring to a group, and members' contributions to the group goal. In a jury, for example, a doctor may be assigned a higher status than a laborer, and persons who smooth over disagreements and move the group toward a decision are likely to have more status than others.

Communication Network

Groups also differ in their patterns of interaction and communication. The flow of communication in many groups follows the status structure, with most communication either directed downward, from superiors to subordinates, or among members of equal status. Early studies of communication networks focused on the extent to which communication within a group flowed through a single person or position. In the most centralized networks, all lines of communication are directed to and from a single group member, whereas in a decentralized network, each member has an equal number of communication lines to others in the group. Research suggests that centralized networks are most efficient in solving simple tasks, but decentralized networks work best for more complex and multifaceted tasks.

Group Culture

Besides the patterned relations among members, groups also develop a culture of their own: a set of shared ideas and customs that guide group members' actions and interpretations of the group experience. Elements of group culture include norms, or ideas about how group members ought to behave, as well as values, beliefs, customs, and symbols that express the group's identity. Although some elements of group culture are adapted directly from the larger culture, other elements evolve within the group, so that every group creates its own unique culture. Members of all airline flight crews, for example, have a common knowledge of how to perform their jobs and also may share certain values and beliefs about their work. But, in addition, as crew members interact with one another, they develop unique customs such as special names or jargon, traditions, and stories about group activities. Becoming a new member of an existing group is largely a matter of learning the group's culture.

Importance of Groups

Groups provide vital links between the individual and society. On one hand, groups satisfy basic individual needs: Through groups, children are raised, shelter and protection are provided, people gain important information about themselves, and people satisfy an inherent desire to have human contact and to bond with others. At the same time, groups support and sustain larger organizations and society by teaching values and societal norms, by exerting pressure on individuals to conform, and by providing a means to solving problems.

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See also Group Cohesiveness; Group Dynamics

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GROUPTHINK

Definition

Groupthink refers to decision-making groups' extreme concurrence seeking (conformity) that is hypothesized to result in highly defective judgments and outcomes. According to Irving Janis, the inventor of the groupthink concept, decision-making groups are most likely to experience groupthink when they operate under the following conditions: maintain high cohesion, insulate themselves from experts, perform limited search and appraisal of information, operate under directive leadership, and experience conditions of high stress with low self-esteem and little hope of finding a better solution to a pressing problem than that favored by the leader or influential members.

When present, these antecedent conditions are hypothesized to foster the extreme consensus-seeking characteristic of groupthink. This in turn is predicted to lead to two categories of undesirable decision-making processes. The first category, traditionally labeled symptoms of groupthink, includes illusion of invulnerability, collective rationalization, stereotypes of outgroups, self-censorship, mindguards, and belief in the inherent morality of the group. The second category, typically identified as symptoms of defective decision making, involves the incomplete survey of alternatives and objectives, poor information search, failure to appraise the risks of the preferred solution, and selective information processing. Not surprisingly, extremely defective decision-making performance by the group is predicted.

History and Social Significance

Irving Janis proposed the term *groupthink* to describe group decision fiascos that occurred in such cases as the appeasement of Nazi Germany by Great Britain at the beginning of World War II; the failure of the U.S. military to anticipate the Japanese attack on Pearl Harbor, which served to bring the United States into World War II; then President of the United States Harry Truman's decision to escalate the war in North Korea, which resulted in Communist China's entry into the war and a subsequent military stalemate; then President of the United States John Kennedy's decision to send Cuban exiles to overthrow Fidel Castro by invading Cuba at the Bay of Pigs, resulting in the death of 68 exiles and the capture of an additional 1,209; and then President of the United States Lyndon Johnson's decision to escalate the war in Vietnam, counter to the warnings of intelligence experts. Janis developed his list of antecedents and consequences of groupthink by comparing the social processes that occurred in these decisions with the successful group decisions in the cases of the development of the Marshall Plan for distributing U.S. aid in Europe after World War II and the use of threats and rewards by the Kennedy administration to remove Soviet missiles from Cuba in what has become known as the Cuban Missile Crisis.

The concept of groupthink became a hit with the general public. Just 3 years after the term was introduced, it appeared in the *Webster's New Collegiate Dictionary,* which defined *groupthink* as "conformity to group values and ethics." Thus, in the popular imagination, groupthink has come to mean any conformity within a group setting. (Of course, Janis's original formulation involves much more than just conformity or going along with the group.) The concept of groupthink was also a hit within the academic literature, frequently appearing in textbooks in social psychology and organizational management.

There was just one problem with this popularity: Empirical research on the concept has produced overwhelmingly equivocal support for the groupthink model. Researchers have attempted to apply the groupthink framework to new case examples, such as Nazi Germany's decision to invade the Soviet Union in 1941, Ford Motor Company's decision to market the Edsel, Chemie Grünenthal's decision to market the drug thalidomide, the tragedy at Kent State University during the Vietnam War, the Space Shuttle *Challenger* disaster, the Space Shuttle *Columbia* disaster, and the City of Santa Cruz's decision not to prepare for an earthquake. It is rare in these case studies to find the constellation of antecedents and consequences proposed by Janis. Researchers have also attempted to produce groupthink in the laboratory using the experimental method. These experiments,

which manipulated such variables as group cohesion, directive leadership, and stress, created ad hoc groups that were required to make group decisions. With one notable exception (discussed in the next section), these experiments have not been able to produce the defective decision making associated with groupthink.

Current Evidence for a Social Identity Maintenance Model

Given the equivocal results of empirical groupthink research, some have called for the abandonment of the groupthink concept. Marlene Turner and Anthony Pratkanis took a different approach of attempting to redefine key groupthink concepts in order to first produce them experimentally in the lab and then use those concepts to clarify conflicting results in case examples. In this model of groupthink, termed the *social identity maintenance* (SIM) model, groupthink occurs when members attempt to maintain a shared positive image of the group (e.g., "the Kennedy White House," "NASA," or "progressive City of Santa Cruz"), and that positive image is subsequently questioned by a collective threat (e.g., no good solution to the Bay of Pigs, pressures to launch a space shuttle, financial pressures of retrofitting for an earthquake). In such cases, the group tends to focus on how it can maintain the shared positive image of the group and not the specific task of making a good decision in the situation.

Turner and Pratkanis experimentally tested the SIM model of groupthink by asking groups of three persons to solve a difficult problem involving the falling productivity of a group of assembly station workers. Half of the groups were given a unique social identity (e.g., a group label such as Eagles or Cougars) and then asked to list the similarities among the group members. The other groups were not given labels and asked to discuss their dissimilarities. In addition, half of the groups were informed that their group would be videotaped and, more critically, were told that their videotapes would be used for training purposes in both classes held on campus and training sessions held in local corporations. Thus, failure at the task would in fact involve direct negative consequences for the group that would threaten a positive image of the group. The results showed that the groups who were given a social identity and who were operating under threat performed poorly at decision making, consistent with the expectations of a SIM of groupthink.

The SIM model of groupthink has also been tested using real-world case examples. For example, in a case analysis of how the city council of Santa Cruz, California, made decisions regarding earthquake safety prior to the 1989 Loma Prieta earthquake disaster that devastated the city, Turner and Pratkanis found that the city council had a strong social identity as a progressive, humane governing body and that that image was threatened by a state-mandated earthquake preparedness plan. An examination of the proceedings of the city council on earthquake preparedness showed all of the classic antecedents and consequences of groupthink (as originally proposed by Janis) as well as defective decision making.

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See also Decision Making; Group Decision Making; Group Dynamics; Group Polarization

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GUILT

Guilt is a widely misunderstood emotion, having long suffered from an undeserved, bad reputation. The popular press abounds with articles offering advice on how to live a guilt-free life, many therapists identify

guilt reduction as one of their short-term treatment goals, and no one wants to be regarded as a guilt-inducing mother. But much of the stigma of guilt can be attributed to people's tendency to confuse guilt with shame. As it turns out, recent research suggests that, on balance, guilt is the more adaptive emotion, benefiting relationships in a variety of ways, without the many hidden costs of shame.

Guilt has been variously classified as one of the moral, self-conscious, social, and problematic emotions, underscoring the complexity of this affective experience and the many different roles guilt plays in people's lives. Systematic theoretical considerations of guilt date back at least to Sigmund Freud, who viewed guilt as a reaction to violations of superego standards. According to Freud, guilt results when unacceptable ego-directed behaviors or id-based impulses conflict with the moral demands of the superego. Freud saw guilt as part of the normal human experience. But he also viewed unresolved or repressed feelings of guilt as a key component of many psychological symptoms. For decades, guilt remained largely in the province of psychoanalytic theory. Very little scientific research was conducted on guilt until the mid-1960s, and few psychological researchers distinguished between shame and guilt until the affect revolution of the late 1980s.

What Is the Difference Between Guilt and Shame?

People often use the terms *guilt* and *shame* interchangeably, as moral emotions that inhibit socially undesirable behavior or as problematic emotions that play a key role in a range of psychological symptoms. But much recent research indicates that these are distinct affective experiences. Both guilt and shame are emotions of self-blame that can arise in response to a broad range of failures, transgressions, and social blunders. The crux of the difference between these two emotions centers on the focus of one's negative evaluation. When people feel guilt, they feel badly about a specific behavior—about something they've *done*. When people feel shame, they feel badly about *themselves*. This differential emphasis on self ("*I* did that horrible thing") versus behavior ("I *did* that horrible *thing*") makes a big difference in the experience of the emotion and in the emotion's implications for psychological adjustment and interpersonal behavior. Whereas feelings of shame (about the self) involve a sense of shrinking, a sense of worthlessness, and

a desire to escape the shame-inducing situation, feelings of guilt (about a specific behavior) involve a sense of tension, remorse, and regret over the bad thing done. People in the midst of a guilt experience often report a nagging focus or preoccupation with the transgression, thinking of it over and over, wishing they had behaved differently. Rather than motivating a desire to hide, guilt typically motivates reparative behavior: confessing, apologizing, or somehow undoing the harm that was done. Thus, feelings of guilt are more apt to keep people constructively involved in the guilt-inducing situation.

An advantage of guilt is that the scope of blame is less extensive and far-reaching than in shame. In guilt, one's primary concern is with a particular behavior, somewhat apart from the self. Because guilt doesn't threaten one's core identity, it is less likely than shame to trigger defensive denial or retaliation. In effect, guilt poses people with a much more manageable problem than shame. It's much easier to change a bad behavior than it is to change a bad self.

Guilt Appears to Be the More Adaptive Moral Emotion

Five sets of research finding indicate that guilt is the more moral, adaptive emotion, relative to shame. First, shame and guilt lead to contrasting motivations or action tendencies. Shame is typically associated with a desire to deny, hide, or escape; guilt is typically associated with a desire to repair. In this way, guilt is apt to orient people in a constructive, proactive, future-oriented direction, whereas shame is apt to move people toward separation, distancing, and defense.

Second, there appears to be a special link between guilt and empathy. Interpersonal empathy involves the ability to take another person's perspective, to really know (and feel) what another person is feeling. In turn, empathy motivates prosocial, helping behavior; it inhibits aggression; and it is an essential component of warm, rewarding relationships. Numerous studies of children, adolescents, and adults show that guilt-prone individuals are generally empathic individuals. (In contrast, shame-proneness is associated with an impaired capacity for other-oriented empathy and a propensity for self-oriented personal distress responses.) Similar results emerge when considering feelings of shame and guilt in the moment. Individual differences aside, when people describe personal guilt experiences, they convey greater empathy and concern for the victims of their transgressions, compared to

descriptions of shame experiences. By focusing on a bad behavior (as opposed to a bad self), people experiencing guilt are relatively free of the egocentric, self-involved process of shame. Instead, their focus on a specific behavior highlights the consequences of that behavior for distressed others, facilitating an empathic response.

Third, perhaps owing to the link between feelings of guilt and empathy, guilt-prone people are inclined to manage and express their anger in a constructive fashion. Although guilt-prone individuals are about as likely as the average person to become angry in the course of everyday life, once angered they are inclined to work toward addressing the problem in an open, nonhostile manner, using their anger to make changes for the better. For example, when angered, guilt-prone people are motivated to fix the situation, are less likely to become aggressive, and are more likely to discuss the matter openly and rationally. In contrast, people prone to feel shame (about the entire self) are more apt to use aggressive and other destructive strategies for expressing anger.

Fourth, findings from studies of people from many walks of life indicate that guilt is useful in helping people avoid sin and persevere on a moral path throughout life. For example, among college students, guilt-proneness is associated with endorsing such items as "I would not steal something I needed, even if I were sure I could get away with it." Guilt-prone adolescents are less inclined to become delinquent than their non-guilt-prone peers. Children prone to shame-free guilt in the fifth grade are, in young adulthood, less likely to be arrested, convicted, and incarcerated. They are more likely to practice safe sex and less likely to abuse drugs. Even among adults already at high risk, guilt-proneness appears to serve a protective function. In a longitudinal study of jail inmates, guilt-proneness assessed shortly after incarceration was related to lower levels of recidivism and substance abuse during the first year after release.

Finally, contrary to popular belief, shame-free guilt does not carry with it high costs in psychological adjustment and well-being. When measures are used that are sensitive to the distinction between shame (about the self) and guilt (about a specific behavior), the propensity to experience guilt is essentially unrelated to psychological symptoms. Numerous independent studies converge: Shame, but not guilt, is related to anxiety, depression, low self-esteem, and a host of other psychological problems.

When Does Guilt Become Maladaptive?

Why is guilt frequently cited as a symptom in such psychological disorders as anxiety and depression? What is the chronic, ruminative guilt described by so many clinicians? One possibility is that many of these problematic guilt experiences are actually feelings of guilt fused with feelings of shame. It seems likely that when a person begins with a guilt experience ("Oh, look at what a horrible *thing* I have *done*") but then magnifies and generalizes the event to the self (" . . . and aren't I a horrible *person*"), many of the advantages of guilt are lost. Not only is a person faced with tension and remorse over a specific behavior that needs to be fixed, but also he or she is saddled with feelings of contempt and disgust for a bad, defective self. In effect, shame-fused guilt may be just as problematic as shame itself.

In addition, it is worth noting that most measures that distinguish between shame and guilt focus on situations in which responsibility or culpability is relatively unambiguous. People are asked to imagine events in which they clearly failed or transgressed in some way. Problems are likely to arise when people develop an exaggerated or distorted sense of responsibility for events beyond their control. Survivor guilt is a prime example of such a problematic emotional reaction that has been consistently linked to post-traumatic stress disorder and other psychological symptoms.

Is Guilt Beneficial?

Guilt's benefits are most evident when people acknowledge their failures and transgressions and take appropriate responsibility for their misdeeds. In such situations, the interpersonal benefits of guilt do not appear to come at an undue cost to the individual. The propensity to experience shame-free guilt in response to clear transgressions is generally unrelated to psychological problems, whereas shame is consistently associated with maladaptive processes and outcomes at multiple levels. When considering the welfare of the individual, his or her relationships, and the society at large, guilt is the moral emotion of choice.

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See also Depression; Empathy; Regret; Self-Esteem; Shame

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GUILTY PLEASURES

Definition

A guilty pleasure is an activity with short-term payoffs that are positive for a person but with long-term negative consequences. For example, reading a trashy magazine can be rewarding in the short term because it is fun, but it can be more negative in the long term if your friends think less of you for enjoying it. Other commonly listed guilty pleasures are eating tasty but unhealthy foods and partying even though it interferes with work.

Usage and History

Dilemmas of self-control often present a contrast between immediate payoffs and delayed payoffs. According to Roger Giner-Sorolla, these dilemmas can be described either as delayed cost (guilty pleasure) or delayed benefit (grim necessity). His studies have shown that people associate different emotions with different types of consequences. In particular, when participants were asked for examples of activities with more positive short-term than long-term consequences, these guilty pleasures brought up negative emotions that tended to be more *self-conscious*. That is, they dealt with evaluating the self and one's own actions, for example, "guilty" and "regretful." However, the positive emotions they came up with for these activities tended to be more *hedonic*, or concerned with immediate pleasure in the activity; for example, "fun" and "happy." Other studies showed that for guilty pleasures in particular, self-conscious emotions that were more quickly reported went together with greater self-control. In fact, when dieters in an eating situation were subtly reminded of negative self-conscious words, they ate lower amounts of unhealthy snacks.

The point is that emotions can help or hurt self-control, depending on whether they are of the kind that deal with short- or long-term consequences. It is particularly helpful to anticipate self-conscious emotional consequences before they occur. Bad feelings do no good if they come after an act, unless a person learns that future bad feelings will happen if they do the act again. In fact, anticipated regret can be an important factor in decision making. For example, male students in one experiment were told to think about how they would feel after sex without using a condom, as opposed to during sex. Those who thought about "after" feelings reported greater intention to use condoms and greater actual use, even weeks after the experiment. Not surprisingly, participants reported anticipating "after" emotions that were negative and tended to be self-conscious—guilt, worry, and so on—while emotions in the "during" condition were more positive.

Roger Giner-Sorolla

See also Grim Necessities; Moral Emotions; Regret; Self-Regulation

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H

HABITS

Habits are learned dispositions to repeat past responses. They develop because many behavioral sequences (e.g., one's morning coffee-making routine) are performed repeatedly in essentially the same context and in much the same order. When responses and context cues repeatedly occur together, the potential exists for associations to form between these various elements. Once these associations form, the mere perception of the context can trigger the response. Contexts include elements of the physical or social setting (places, presence of others), temporal cues (time of day), and prior events (actions in a sequence).

Typing, driving a car, and wrapping wontons all become habitual with practice. When wontons become a staple at dinner, one doesn't need to decide specifically to wrap. Instead, wrapping is cued by time of day, hunger, and any standard prior activities. In this way, the mere perception of context cues triggers automatically the habitual response without intention. Once cued, habit performance has a ballistic quality in that it does not require additional input and is difficult to inhibit.

Habits are similar to other automatic responses that are activated directly by context cues (e.g., implementation intentions, nonconscious goals). However, habits develop with repetition, and they do not require intentions to initiate.

Historically, the construct of habits is tied to behaviorism, especially John Watson's and B. F. Skinner's radical behaviorism that rejected cognition as a cause of action and a mediator of stimulus–response associations. Radical behaviorism built on the classic idea that learning occurs as the formation of a direct bond between some physical event or sensory input and a muscle response, so that the external stimulation reflexively comes to cause the response. Strict behaviorist models proved limited in their ability to account for human functioning. In contrast, in modern perspectives, habits have moved decidedly into the head.

Control of Responses Changes With Repetition

There are currently three perspectives on the habit mechanisms that generate repeated behavior in everyday life. Observations of college students and adults in the community suggest that about 45% of everyday behavior is repeated almost daily and usually in the same context.

In a direct context cuing account, repeated co-activation forges direct links in memory between context and response representations. Once these links are formed, merely perceiving a context can trigger associated responses. Supporting evidence comes from research in which the mere activation of a construct, such as the elderly stereotype, leads to the activation of associated behaviors, such as physical infirmity, that manifests in actual performance.

It is not yet clear whether contexts trigger responses through such a simple mechanism in the absence of a relevant goal. Social cognition research has thus far demonstrated a limited version of direct cuing effects. Although research has yet to demonstrate that such

activation can initiate responses, the possibility that action can be directly cued by contexts in the absence of goal activation is suggested by myriad findings in cognitive neuroscience revealing reduced involvement of goal-related neural structures, such as the prefrontal cortex, when behaviors have come under habitual control. Furthermore, evidence from animal learning research using a clever paradigm in which reinforcers are devalued is also commonly interpreted as indicating the direct context control of habits. When rats initially perform an instrumental behavior (e.g., pressing a bar to receive a food pellet), they appear motivated by specific goal expectations; they cease the behavior if the reward is devalued (e.g., by pairing it with a toxin). In contrast, when rats repeat the behavior sufficiently to form habits, they appear motivated directly by the performance context: They continue the behavior despite reward devaluation. Animal learning research shows that repeated responding is not oriented to attaining specific goals.

In the motivated contexts perspective, contexts themselves can acquire motivational value through their prior association with instrumental reward. If contexts predict rewards in this way, then they plausibly carry the power to energize and activate associated responses. Evidence of this predictive role comes from animal studies of the neurotransmitters that mediate reward learning. For example, Wolfram Schultz, Peter Dayan, and P. Read Montague found that when monkeys are first learning that a feature of the environment (e.g., a light) predicts a reward (e.g., a drop of juice) when a response is made (e.g., a lever press), neurotransmitter activity (i.e., dopamine release) occurs just after receipt of the reward. After repeated practice, the animal reaches for the lever as soon as the light is illuminated. Furthermore, the neurotransmitter response is no longer elicited by the juice reward but occurs instead following the initial presentation of the light. The environmental cue has thus come to predict the reward value of the imminent response.

Reward-predicting environments are thought to signal the long-run future value, the cached value, of an action without signaling a specific outcome associated with it. Put differently, this value reflects a general appetitive tag associated with the environment and not a prediction about a specific outcome (e.g., a food pellet). This diffuse motivation may explain the relatively rigid pattern of repetition in everyday life, given that cached values do not convey a specific desired outcome that could be met by multiple substitutable means. The motivated environment idea has

been tested primarily with animals, and its ability to account for human habits has yet to be demonstrated. However, promising support comes from evidence of common reward-related neurotransmitter systems across species (e.g., dopamine is elicited by monetary reward in humans).

Finally, some researchers have invoked implicit goals and argued that habits develop when, in a given context, people repeatedly pursue a goal via a specific behavior. This leads to the formation of an indirect association between the context and behavior via a broader goal system or knowledge structure. However, the dynamic, flexible nature of goal pursuit—especially the idea in many goal theories that people substitute behaviors that serve a common goal—does not map well onto the rigid pattern of responding that emerged in diary studies of everyday behaviors. Thus, implicit goals do not plausibly mediate between contexts and responses in habit associations.

Assessment of Habit Strength

How should habit strength be assessed? In laboratory experiments, strong habits are formed by frequent repetition in stable contexts (e.g., completing a sentence with the same word on a computer program). In naturalistic studies, habit strength is measured from people's reports of the behavior they frequently performed in the same contexts (e.g., always reading the newspaper after dinner). In general, the similar effects obtained for manipulated and self-reported habits confer validity to self-report measures. In additional support of this validity, self-reported habits continue to predict future performance even when other predictors are statistically controlled (e.g., behavioral intentions).

Sometimes naturalistic measures of habit strength assess only performance frequency. This should be sufficient for actions that are performed in one context (e.g., wearing seat belts). However, for actions performed in multiple contexts, habit strength also depends on the stability of the performance context, and measures should include this component.

Prediction, Change, and Regulation of Habits

The context cuing and ballistic progression of habits should be apparent in research on predicting, changing, and regulating everyday behavior. Although psychologists often predict behavior from mindful constructs such as intentions, attitudes, and decisions,

the best predictor of habit performance should be the strength of context–response associations in memory. In support, research has shown that intentions predict behavior primarily when habits have not been formed. As habit strength increases, habits tend to be repeated regardless of people's intentions. This pattern plausibly reflects the cuing and ballistic quality of habits; it is difficult to control habits that do not correspond with intentions.

Changing habits also poses unique challenges. For actions that are not easily repeated into habits, changing intentions tends to change behavior. However, given that habits are cued by contexts and proceed ballistically, changing intentions has only limited effect on habit performance. Thus, changing intentions concerning diet, seat belt use, and other often-repeated behaviors may not have much effect on performance. Yet, the dependence of habits on context cues makes them vulnerable to other types of interventions. Habit performance is especially susceptible to changes in the performance context. Effective habit change interventions likely involve structural changes that remove triggering cues or disrupt the automated mechanisms that generate repetition.

Self-regulation involves actively controlling behavior. The context-cuing, ballistic features of habit performance appear to interact with this process by influencing the ease with which responses can be executed versus withheld. The unique pattern of habit regulation emerges most strongly when people's self-control resources are low. Then, people are able to execute habits successfully but are less able to inhibit habit performance.

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See also Automatic Processes; Implementation Intentions; Learning Theory; Memory; Self-Regulation

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Halo Effect

Definition

Halo effects refer to the widespread human tendency in impression formation to assume that once a person possesses some positive or negative characteristic, other as yet unknown qualities will also be positive or negative, in other words, consistent with the existing impression. It seems as if known personal characteristics radiate a positive or negative halo (hence the name *halo effect*), influencing a person's expectations about other as yet unknown qualities. Halo effects reflect the apparent belief that positive and negative characteristics occur in consistent patterns. For example, if you have a positive impression of your colleague Sue because she is always clean and well groomed, and somebody asks you whether Sue would be the right person to organize the office party, you are more likely to answer yes, not because you have any real information about Sue's organizational abilities but because you already have an existing positive impression of her.

History and Mechanisms

Halo effects were first described in the 1920s by Edward L. Thorndike, and numerous experimental studies have since documented their existence. Halo effects can operate in strange ways, especially when the known qualities of a person are totally unrelated to the characteristics to be inferred. For example, external, physical appearance often serves as the basis for inferring internal, unrelated personal qualities. This was first shown in a study that found that physically attractive women were judged to have more desirable internal qualities (personality, competence, happiness, etc.) than homely, unattractive looking women. In a similar way, several studies found that attractive looking people are often judged less severely when they commit a transgression, and attractive looking children are punished less severely than unattractive children when committing the same misdemeanor. The fact that people are even prepared to make judgments about another person's personality, let alone culpability, based

on that person's physical attractiveness is quite surprising. People can perform this task only by confidently extrapolating from physical attractiveness to other, unknown, and hidden qualities.

Halo effects occur because human social perception is a highly constructive process. As humans form impressions of people, they do not simply rely on objective information, but they actively construct a meaningful, coherent image that fits in with what they already know. This tendency to form meaningful, well-formed, and consistent impressions is also confirmed by other studies conceived within the Gestalt theoretical tradition (represented in social psychology by the work of Solomon Asch, for example).

Research Findings

Halo effects represent an extremely widespread phenomenon in impression formation judgments. Even something as innocuous as a person's name may give rise to halo effects. In one telling experiment, schoolteachers were asked to rate compositions allegedly written by third- and fourth-grade children. The children were only identified by their given names, which were either conventional names (e.g., David, Michael) or were unusual names (e.g., Elmer, Hubert). These researchers found that exactly the same essay was rated almost one mark worse when the writer had an unusual name than when the writer had a common, familiar name. In this case, names exerted a halo effect on the way a completely unrelated issue, essay quality, was assessed.

In some intriguing cases, halo effects also operate in a reverse direction: Assumed personal qualities may influence people's perceptions of a person's observable, objective external qualities. In one fascinating experiment, students were asked to listen to a guest lecture. Some were told that the lecturer was a high-status academic from a prestigious university. Others were told that the lecturer was a low-status academic from a second-rate university. After the lecture, all students completed a series of judgments about the guest lecturer. Among other questions, they were also asked to estimate the physical height of the lecturer. Amazingly, those who believed the lecturer to be of high academic status overestimated his physical height by almost 6 centimeters compared to those who believed him to be a low-status person. In this case,

academic status exerted a halo effect on perceptions of height, despite the fact that height is in fact a directly observable, physical quality.

When a known negative characteristic gives rise to unjustified negative inferences about the unrelated qualities of a person, the halo effect is sometimes called the *devil effect* or the *horn effect*. For example, if your office colleague is often unshaven or unkempt, people are more likely to assume that the person is lazy or incompetent, even though these two qualities may be unrelated.

Significance and Implications

The existence of halo effects may often give rise to long-term biases and distortions to the way a person is assessed. If people expect a person to have generally positive or negative qualities based on very limited information, it is usually possible to find subsequent evidence to confirm such expectations given the rich and multifaceted nature of human behavior. Such biases may lead to a self-fulfilling prophecy, when people selectively look for and find information to confirm an unjustified original expectation, often triggered by an initial halo effect. The practical consequences of halo effects can be very important in personal and working life, as people will draw unjustifiable inferences on limited samples of behavior. Being untidy, messy, unattractive looking, or late may lead to more negative judgments about other hidden qualities. The principle appears to be the following: Emphasize positive details, and avoid giving people any negative information about yourself, especially when they do not know you very well and so are likely to draw unfavorable inferences based on limited and easily accessible information.

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See also Impression Management; Primacy Effect, Attribution; Recency Effect; Self-Fulfilling Prophecy

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HAPPINESS

Definition

When psychologists use the term *happiness,* they tend to mean one of two things. In the narrow sense, happiness is a specific emotion that people feel when good things happen. It includes feelings of pleasantness along with moderate levels of arousal. In addition, the emotion often co-occurs with a specific facial expression: the smile. Happiness can be distinguished both from negative emotions such as sadness, fear, and anger and also from other positive emotions such as affection, excitement, and interest. People from around the world tend to have a similar concept for happiness and can recognize happiness in others. As a result, the emotion of happiness is often included as one of a small number of basic emotions that cannot be broken down into more fundamental emotions and that may combine to form other, more complex emotions (in fact, it is sometimes the only positive emotion that is considered to be basic). Thus, happiness is an important concept for researchers who study emotions.

Yet happiness also has a broader meaning, and an entire field of research has developed around this more inclusive concept. Psychologists often use the term *subjective well-being* to distinguish this broad collection of happiness-related phenomena from the more specific emotion. In this broader sense, happiness is a global positive evaluation of a person's life as a whole. As one might expect, people who are happy in this way tend to experience frequent positive emotions and infrequent negative emotions. But this broader form of happiness is not purely emotional; it also has a cognitive component. When happy people are asked to think back on the conditions and events in their life, they tend to evaluate these conditions and events positively. Thus, happy people report being satisfied with their lives and the various domains in their lives.

Interestingly, these different components of happiness do not always co-occur within the same person. It is possible that someone could experience a great deal of negative emotions yet still acknowledge that the conditions of his or her life are good ones. For example, someone who works with the poor, the sick, or the destitute may experience frequent negative emotions but may also feel satisfied with life because he or she feels that the work is worthwhile. Similarly, someone who spends lots of time engaging in hedonistic pleasures may experience frequent positive affect but may also feel that life is empty and meaningless. Subjective well-being researchers are interested in the various factors that influence these distinct components.

Background

Psychologists are interested in happiness for two reasons. First, psychologists study happiness because lay people are interested in happiness. When people from around the world are asked to list the things that are most important to them, happiness consistently tops the list. People rank attaining happiness as being more important than acquiring money, maintaining good health, and even going to heaven. Psychologists believe that they can help people achieve this goal of being happy by studying the factors that are associated with happiness.

A second reason why psychologists study happiness is because people's evaluative responses to the world may provide information about human nature. One of the most basic principles guiding psychological theory is that people and animals are motivated to approach things in the world that cause pleasure and to avoid things in the world that cause pain. Presumably, this behavior results from adaptive mechanisms that guide organisms toward resources and away from dangers. If so, people's evaluative reactions to the world should reveal important information about basic characteristics of human nature. For instance, some psychologists have suggested that human beings have a basic need to experience strong and supportive social relationships. These psychologists point to evidence from the field of subjective well-being to support their claim—people's social relationships are reliably linked to their happiness. Thus, cataloging the correlates of happiness should provide important information about the features of human nature.

Measurement

It is reasonable to ask whether happiness can even be studied scientifically. Psychologists can't see happiness, and therefore it might seem that happiness would be difficult to measure. However, psychologists have spent decades studying happiness measures (including

self-report measures), and a great deal of evidence now suggests that these measures are valid. For instance, when researchers ask people to report on their happiness, their answers tend to be consistent over time: People who say they are happy now also tend to say that they are happy when asked again in the future. Because the conditions in people's lives don't usually change that frequently, the stability of happiness measures provides support for the idea that these measures truly do tap this important construct. In addition, research shows that when life events do occur, people's reports of happiness change in response.

Perhaps more importantly, when psychologists try to assess happiness in a variety of different ways, these measures all seem to converge on the same answer. For instance, when researchers ask people to provide self-reports of happiness, these reports tend to agree with informant-reports of happiness, that is, ratings provided by friends and acquaintances. Furthermore, psychologists have ways of determining who is happy without even asking for an explicit judgment of happiness, and again, these measures tend to agree with self-reports. For example, some researchers ask people to list as many positive memories as they can within a minute. People who say that they are happy tend to be able to remember and list more things. Psychologists can even find evidence of happiness in the brain: Certain patterns of brain activity are reliably associated with happiness. Together, this evidence makes psychologists confident that happiness can, in fact, be measured.

Correlates

It is important to first note that although the preponderance of self-help books might suggest otherwise, most people are quite happy. When psychologists track people's levels of happiness, most people report being in mildly positive moods most of the time. In addition, when psychologists ask people to rate their overall life satisfaction, most people report scores that are above neutral. This research finding is not limited to relatively well-off samples (like the college students who are often asked to participate in psychological studies). Instead, it has been replicated in many different populations in many nations around the world. Thus, when psychologists study the correlates of happiness, they are usually looking for factors that distinguish the very happy from the mildly happy rather than the happy from the miserable.

Psychologists have arrived at several surprising conclusions in their search for predictors of happiness. Many of the factors that may first come to mind do not seem to play a major role in happiness. For example, although people strive to acquire high-paying jobs and dream about winning the lottery, income is not strongly correlated with happiness. Rich people are happier than poorer people, but the difference is not very large. As one might expect, the association between money and happiness is strongest among very poor groups and among poor nations: Income leads to smaller and smaller gains in happiness as income levels rise.

Health also plays a role in well-being, but the associations are, again, surprisingly small. Surveys of representative populations show that objective measures (including doctors' reports, hospital visits, and lists of symptoms) are very weakly correlated with happiness. Subjective reports (such as a person's own evaluation of his or her health) tend to correlate more strongly, but even these associations are, at most, moderate in size. In addition, although people with major health problems such as paralyzing spinal-cord injuries are quite a bit less happy than uninjured people, the difference is not as large as some might expect. Even people with very serious illnesses tend to report happiness scores that are above neutral.

The factor that has been most closely linked to high levels of happiness is social relationships. Research consistently shows that people who have strong social relationships tend to report higher levels of well-being. As with other domains, subjective reports of relationship quality and relationship satisfaction tend to exhibit the highest correlations with subjective well-being. But even more objective measures, including the number of close friends a person has, the number of social organizations to which the person belongs, and the amount of time the person spends with others, all show small to moderate correlations with happiness. As one might expect based on this research, specific types of social relationships are also important for well-being. For instance, marital status is one of the strongest demographic predictors of happiness. Married people consistently report higher levels of happiness than single people, who report greater happiness than the widowed, divorced, or separated. Interestingly, however, it does not appear that marriage, itself, causes higher levels of well-being. Longitudinal studies show that people only receive a small

boost in happiness around the time they get married and they quickly adapt to baseline levels. The differences between married and unmarried people are due primarily to the lasting negative effects of divorce and widowhood, along with selection effects that might actually predispose happy people to marry.

Other demographic characteristics also show weak associations with happiness. Religious people tend to report greater happiness than nonreligious people, though the size of these effects varies depending on whether religious beliefs or religious behaviors are measured. Factors such as intelligence, education, and job prestige are also only slightly related to well-being. Happiness does not seem to change dramatically over the course of the life span, except perhaps at the very end of the life when declines are somewhat steep. In addition, sex differences in well-being are not large.

In contrast to the relatively weak effects of external circumstance, research shows that internal factors play a strong role in subjective well-being. Individual differences in happiness-related variables emerge early in life, are stable over time, and are at least partially heritable. For instance, behavioral genetic studies show that identical twins who were reared apart are quite a bit more similar in their levels of happiness than are fraternal twins who were reared apart. This suggests that genes play an important role. Most estimates put the heritability of well-being components at around 40% to 50%.

Personality researchers have shown that at least some of these genetic effects may be due to the influence of specific personality traits on happiness. For example, the stable personality trait of extraversion is moderately correlated with positive affect (and, to a lesser extent, with life satisfaction and negative affect). People who are outgoing, assertive, and sociable tend to report more intense and more frequent positive emotions. This association is so robust that some psychologists have even suggested that the two constructs—extraversion and positive affect—are controlled by the same underlying physiological systems. Similarly, researchers have shown that the basic personality trait of neuroticism is moderately to strongly correlated with negative affect (and again, to a lesser extent, with life satisfaction and positive affect). This and other research on the links between happiness and traits (including factors such as optimism and self-esteem) show that personality plays a strong role in people's subjective well-being.

Cognitive Processes That Affect Happiness

There is a popular notion that the way that people view the world should influence their happiness. Some people always look for the silver lining in things, and presumably this positive outlook shapes the emotions that they feel. Psychologists, too, believe that the way that one thinks about the world is related to characteristic levels of happiness. A great deal of research has been conducted to examine the cognitive processes that affect people's well-being.

For instance, many researchers examine the role that social comparison processes play in happiness. Initially, psychologists thought that people evaluated the conditions in their own lives by comparing them to the conditions in other people's lives. Those individuals who were worse off than the people around them (in other words, people who experience upward comparisons) should experience unhappiness; those individuals who were better off than the people around them (in other words, people who experience downward comparisons) would experience happiness. Although this effect can occur, more recent research suggests that the processes are a bit more complicated. For one thing, both upward and downward comparisons can lead to either increases or decreases in happiness. A person may look to someone who is better off and think, "I am doing terribly in comparison," or he or she may say, "I can get what she has if I just try a little harder." Obviously, these two interpretations should lead to different effects on happiness. In addition, research shows that happy and unhappy people often choose different people for comparison. Happy people may choose comparison people who serve to maintain their happiness; unhappy people may choose comparisons that lead to less happiness. Thus, social comparison affects happiness in complicated ways.

Psychologists have also shown that goals and aspirations influence happiness. Not surprisingly, people who are rapidly approaching a goal tend to experience higher levels of happiness than people who are approaching a goal more slowly. But research also shows that simply having important goals is associated with greater happiness. Presumably, the sense of purpose that these goals create may protect people from the negative effects of temporary setbacks. Interestingly, the specific goals that people choose may also affect their happiness. Research suggests that choosing

goals that are a challenge, but not unachievable, is important.

Effects

Although people tend to think about happiness as an outcome that they desire rather than as a tool that can be used to achieve additional goals, psychologists have also begun to ask what function happiness serves. Barbara Fredrickson has developed what is probably the most well-known of these theories, and she suggested that the function of happiness (or more precisely, the function of positive emotions) is to broaden one's thinking and to build one's resources. According to this theory, positive emotions lead people to think creatively and to try new things. As a result, happy people can develop new ways to approach the world, new interests, new social relationships, and even new physical skills. All of these effects lead to positive outcomes in people's lives.

Psychologists have begun using experimental and longitudinal studies to determine whether positive affect plays a role in future positive outcomes. These studies provide evidence that happy people are more sociable and cooperative than unhappy people, are healthier than unhappy people, and earn more money than unhappy people. A number of studies have even shown that happy people live longer than unhappy people (and this is not just due to the fact that happy people tend to be healthy). Thus, although most people want to be happy because it feels good, this desired goal may lead to other positive outcomes in their lives.

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See also Emotion; Positive Affect

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HARDINESS

Definition

Hardiness is a personality trait that is associated with a person's ability to manage and respond to stressful life events with coping strategies that turn potentially unfortunate circumstances into learning opportunities. It is characterized by a tendency to be deeply involved, a need to be in control, and a desire to learn from life's events regardless of the outcomes.

History of Hardiness and Hardy Attitudes

With more than 20 years of theory, research, and practice, hardiness is a well-established concept in psychology. The psychological concept of hardiness was first identified by examining stress reactions among managers at the Illinois Bell Company over a 12-year period. Six years into the study, a major corporate upheaval in its parent company occurred, resulting in a decrease in half of the work force during a 1-year period. Over the next several years, two thirds of the managers showed signs of reactions to stress (e.g., heart attacks, depression, suicide, divorce) while one third of the managers thrived under these stressful conditions. What was the difference between those who succumbed to stress and those who thrived? Managers who exhibited all three attitudes of *commitment, control,* and *challenge* were protected against stress-related illness. The unique combination of these three attitudes became known as the 3Cs of hardiness.

Possessing all three hardy attitudes provides people with the ability to turn unfortunate circumstances into opportunities for personal growth. The 3Cs are described as (1) the tendency to become deeply involved in all aspects of life—people, places, and events (commitment); (2) belief in one's ability to influence life outcomes (control); and (3) a desire to continually learn from both positive and negative experiences and embrace change (challenge). Hardiness theory emphasizes that a person must possess all three of these attitudes to have existential courage (i.e., courage based upon experience).

The Hardiness Model

Soon after the corporate upheaval, the research findings were used to develop a training program to assist managers at the Illinois Bell Company. From this training program and prior research, a hardiness model emerged. This model shows that as stressful circumstances increase, a strain reaction will likely occur. If this strain reaction continues to build up, it is expected that performance deficits (e.g., physical illness or mental breakdown) will follow. However, if hardy attitudes are strong, the consequence is hardy coping.

Thus, hardy people use active rather than passive coping strategies and are less likely to avoid coping with stressful events. Hardy attitudes also motivate hardy coping, hardy social support (i.e., providing and receiving social support), and hardy health practices (e.g., practice of relaxation techniques and exercise). If a person actively reflects upon each situation, hardy attitudes can deepen, leading to similar hardy reactions in new situations.

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See also Control Motivation; Coping; Meaning Maintenance Model; Stress and Coping

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HEALTH PSYCHOLOGY

Definition

Health psychology is devoted to understanding psychological influences on health and disease. According to Shelley E. Taylor, a leading health psychologist, this field addresses the psychological factors that determine how people stay healthy, why they become sick, and how they respond when they do get sick. Health psychology encompasses a broad array of topics and addresses a variety of questions, including health promotion and health maintenance; for example, why do some people engage in positive or negative health behaviors, such as exercise or smoking? Other areas of health psychology focus on the behavioral and social factors that could cause illness and how psychological interventions can help prevent and treat disease. For example, is low socioeconomic status associated with the onset of cardiovascular disease (in other words, are poor people more likely to have heart attacks)? What are effective behavioral techniques to manage and alleviate stress; for example, do relaxation exercises reduce stress levels? Health psychologists also analyze health care systems; research in this area can inform policies for improving hospitals, nursing homes, and health care accessibility. For example, health psychologists can offer solutions for reducing barriers to adequate health care (e.g., not trusting/being comfortable with doctors or fear of medical procedures).

Health psychology is an interdisciplinary field, which integrates other areas of psychology (e.g., social, developmental, clinical) as well as other disciplines (e.g., immunology, public health, medicine). Health psychologists can conduct basic research and work in applied and clinical settings. With its emphasis on holistic health—or treating the body, spirit, and mind of the patient—training in health psychology can provide an important perspective for those working in medical or allied health professions (e.g., occupational therapy, dietetics, social work). Health psychology is a relatively new, emerging field with important implications for how we conceptualize health and disease; understanding how psychological processes contribute to health and illness provides a foundation for improving physical and mental health outcomes.

Biopsychosocial Model

In the biomedical model of health and illness, physicians look for an underlying biological cause for a physical disorder and treat it with biological interventions, such as performing surgery or prescribing medicine. This perspective, in which diseases or physical disorders are caused by biological processes, has been the dominant viewpoint in medicine over the past several centuries. In contrast, health psychologists view health and illness through the biopsychosocial model, which recognizes that biological, psychological, and social factors can all contribute to health outcomes. Health psychology research has demonstrated that the inclusion of psychological and social factors in this equation is important, as these elements can have an influence on health. For example, psychological states, such as thoughts, emotions, or perceptions of stressors, can be associated with the development and progression of certain diseases. Social factors, such as family environment or social status in society, are also important determinants of health outcomes. To treat illness, proponents of the biopsychosocial model would not solely treat the problem at the biological level but would design and implement interventions that target psychological and social factors as well.

Physicians were initially reluctant to acknowledge the role that psychosocial factors could play in health and disease. However, some very persuasive research findings have helped the medical community better

understand the importance of the biopsychosocial model. For example, large prospective studies (which follow the same individuals over long periods of time) have found that psychological stressors can lead to the development of disease; those that experienced more negative life events were more likely to develop cardiovascular disease compared to people without as many major stressors in their lives. Other studies have shown that having large social networks—or belonging to different social groups—is associated with increased longevity, or how long people live. Impressive findings such as these have helped the biopsychosocial model gain more acceptance within the medical community.

Physiological Responses to Stressful Situations

Characterizing how individuals respond and adapt to stressful situations has been a cornerstone of health psychology research. *Stressors* are situations in which the demands of the situation exceed one's resources to cope. Stressors can be major life events, such as experiencing the death of a loved one or going through a divorce, but they can also be minor, everyday occurrences, such as getting stuck in traffic or taking an exam. Stressors can be categorized as acute or short-term (e.g., delivering a speech), or chronic and ongoing (e.g., caring for a spouse with dementia). Both acute and chronic stressors can lead to *stress responses,* the psychological and physiological changes that can follow a stressful event (e.g., feeling anxious, pounding heart).

Research has demonstrated that stressful situations can have profound effects on the body, including changes in the how the heart beats (cardiovascular system), in specific chemicals that are released (hormonal system), and how the body fights infection (immune system). In the first half of the 20th century, Walter Cannon and Hans Selye provided the groundwork for this area of research. Cannon first described the fight-or-flight response, the body's reaction to threat and danger in the environment, which includes physiological changes that can lead to increases in arousal, heart rate, and blood pressure. He theorized that this increased physiological activation helps the organism quickly respond to the danger, that is, to attack or flee from the threat. Selye focused more on the endocrine responses to stressors and their potential effects on health. He proposed that stressors elicit a constellation of physiological changes, including secretion of an important hormone, cortisol. He argued that continued activation of certain physiological systems could lead to adverse effects on health. Current research in health psychology has extended and modified the seminal contributions of these two scientists. For example, it is now known that certain types of stressors are more likely to trigger these physiological responses; uncontrollable contexts elicit greater changes in certain hormones in humans and nonhuman animals compared to situations that are more controllable.

Research in psychoneuroimmunology, the study of the relationship between psychological states and the body's natural processes for fighting off diseases (called the immune system), has demonstrated that stressful situations can influence aspects of immunity. Acute stressors can lead to changes in the number of immune cells present in the bloodstream as well as how effectively these cells function. Exposure to long-term, chronic stressors is associated with a number of negative effects on the immune system, including decrements in the function of certain types of immune cells, impaired responses to vaccination, and delays in the body's ability to heal a wound.

Research that documents the effects of stressors on physiology is important because it provides a pathway through which stressful life events could translate into effects on health; in other words, stressors could influence the body's processes (like the cardiovascular system), which in turn could affect health. For example, if a person experiences a number of stressors that cause his or her heart to beat much faster than normal, this accelerated heart rate over time could lead to the development of disease. Therefore, prolonged activation of certain body processes (caused by repeatedly experiencing stressful situations or having greater physiological responses to stressors) could put individuals at risk for illness.

Moderators

Not everyone responds in the same way to stressful situations; individual differences in coping and our social environment can influence health outcomes. *Coping* refers to how we manage the demands of a stressful situation; effective coping strategies can dampen or reduce stress responses. *Problem-focused coping* involves doing something constructive about the situation, such as taking direct action or getting

help from others. This can be particularly effective when something can be done to change the situation (e.g., preparing for a difficult midterm exam). *Emotion-focused coping* involves regulating one's emotional response to the situation. This type of coping can be especially beneficial when acceptance is necessary, such as when coming to terms with the death of a loved one. However, there is not a universally effective coping strategy; both types of coping can be beneficial, depending on the characteristics of the situation, the individual, the timing, and the outcome examined.

Social relationships and social support can also be important for understanding how psychological processes can influence health. *Social support* can be stress-buffering; that is, it can protect an individual from the effects of a stressor. For example, having a supportive partner present during a stressful situation can lead to decreased emotional and physiological reactivity in some circumstances. Social support can also have direct effects on health or be beneficial regardless of the amount of stressors experienced. For example, *social integration,* or having a large social network, has been associated with increased longevity (regardless of the number of stressors in an individual's life). In other words, people who have many friends and relatives live longer than other people.

Research has found that individuals with certain personality traits are more likely to interpret situations as stressful and react with larger changes than others. For example, individuals high on hostility interpret ambiguous situations as threatening and are more likely to respond to interpersonal stressors with greater physiological reactivity. Other personality factors, such as optimism and hardiness, appear to buffer the impact of stressful events.

Disease Course

Health psychology has made important contributions in helping to better understand who gets sick, which factors influence disease course and outcome, and how individuals adjust to illness and dying.

Who gets sick? Health psychologists have explored the connections between personality traits and disease incidence. One example of this line of inquiry has been in the area of heart disease. Of the many risk factors studied, hostility has been one of the more widely investigated; research has consistently found that

hostile individuals are more likely to develop cardiovascular disease. In addition, researchers have linked hostility and rates of coronary artery disease survival. Many have posited that hostile individuals' increased health risk could be due to their known exaggerated reactivity to stressors.

How do psychosocial factors influence the progression and outcome of disease? Health psychologists have studied how diseases such as HIV/AIDS progress as a function of psychological and interpersonal influences. For example, HIV-positive gay men with high levels of stressful events in their lives show faster progression of the disease. However, the presence of a supportive network can keep people healthier longer. In addition, cognitive beliefs, such as negative expectations about the future or negative beliefs about the self, have been associated with more rapid declines in the immune system and in physical health for those with HIV.

How do individuals adjust to terminal illness and dying? Cancer patients have received a good deal of attention. Cancer has many negative physical and emotional consequences, including nausea, weakness, and hair loss from chemotherapy; disfigurement; and disability from cancer itself, from surgery to remove cancer, or both. In addition to these physical ailments, cognitive responses to the diagnosis and disruptions in interpersonal relationships can lead to great psychological distress, such as depression and anxiety. Health psychology has a lot to offer in the alleviation of this suffering; some have focused on improving pain management, increasing social support, and cognitive therapy (e.g., to improve body image and self-esteem). Research has generally supported the use of these techniques with cancer patients for improvements in quality of life.

Health Behaviors

Many of the leading causes of death are chronic illnesses, or diseases that develop over a long period of time (e.g., heart disease, cancer, diabetes). These chronic illnesses are more prevalent today because the population is living longer and people are exposed more to toxic substances. Chronic illnesses are influenced by psychosocial factors, such as behavior, lifestyle, and stress. Changes in behavior may help to prevent many deaths from these leading causes. For example, quitting smoking can contribute to reduced

risk of lung cancer. Rising health care costs have also inspired individuals to better understand behaviors that contribute to poor health.

Researchers have focused on health-related behaviors and what predicts *health-impairing* and *health-protective behaviors*. Health-impairing behaviors are those that harm one's health (e.g., alcoholism, drug abuse, and smoking). Health-protective behaviors protect or support one's good health; these behaviors include obtaining regular physical exams (screening), exercising, wearing seat belts, and controlling one's weight. Many factors play a role in determining whether someone will engage in particular health behaviors, including social values, genetics, the environment, individual emotions, beliefs, and experiences.

Health psychology has focused on understanding why health-related behaviors occur, how they progress, and how to modify them by identifying points for intervention. Major models have included the health locus of control, the health belief model, and the theory of planned behavior. For example, according to the health belief model, which was developed in the 1950s, behavior can be predicted by knowing an individual's perception of how severe a health threat is and how successful taking action would be. In other words, the individual's view is important in weighing the pros and cons in deciding a course of action in response to a health threat. Additional factors have been determined to influence the perception of threat, such as the likelihood of developing the health problem, how serious the problem is, and the individual's general beliefs about health. This model has been used to successfully predict behaviors such as dental check-ups, condom use, breast self-exams, breastfeeding, and vaccination.

Intervention

Another area of health psychology examines how health psychologists can get involved in improving the health of individuals. For example, how can health psychologists best design and apply programs to teach behaviors that can have a positive effect on health? Interventions can take a variety of different forms (e.g., teaching coping skills or stress management techniques, providing health-relevant information or social support), and can occur at different points in the disease process.

Primary prevention is the process of intervening before an illness or injury develops. The goal is to keep people from developing bad health habits.

Commonly, this type of prevention is aimed at promoting health among young or at-risk populations. Educating people to wear seat belts, brush and floss regularly, and get immunized against disease are all examples of community health promotion. Behavior change, or altering problem behaviors, is the most common intervention in health psychology. This can be challenging when dealing with addictive health-impairing behavior, but it is also difficult when individuals are healthy because there is less incentive to engage in health-protective behavior, especially behaviors that are not favorable, such as dieting or exercise.

Psychological principles have shown to be useful in understanding how to change problem behavior and encourage health-protective behavior. One popular approach is cognitive behavioral; here one focuses on what circumstances elicit, maintain, and reinforce a certain behavior. Then one addresses the thoughts and beliefs about one's behavior. Cognitive behavior restructuring has been applied to behaviors such as smoking, wearing seat belts, diet, and exercise.

Secondary prevention is the process of screening and diagnosing illness or injury early on. The goal is to treat the individual immediately and stop the progression of disease. The most common example is physical exams, such as vision, hearing, dental, blood pressure, blood tests, and cancer screening. Health psychologists conduct research to better understand why some people do or do not screen for illness. For example, researchers are studying why individuals at high risk for certain types of cancer may or may not choose to screen for the disease.

Tertiary prevention occurs after illness or injury has progressed, and the focus is on containing illness or injury to avoid future complications. Goals include disease management, rehabilitation, and relapse prevention. To do this, researchers and clinicians have helped to develop and evaluate the effectiveness of support groups and therapy for individuals with diseases such as cancer, alcoholism, and cardiovascular disease.

Primary, secondary, and tertiary prevention programs can help individuals live longer and healthier, improve the quality of their lives, or both.

Future of the Field

There are a number of exciting areas of research that health psychologists are now pursuing. Many are now examining questions of health and disease from a

life-span perspective, from the time of conception (How do prenatal stressors influence birth outcomes?) to the end of life (How can clinicians help people die with dignity?). Others are now discovering how cultural and gender differences in lifestyles, stress reactivity, and coping can influence health outcomes. As the population ages and many develop chronic diseases, it will be increasingly important to focus on health promotion and how to help individuals cope with their diagnoses and improve their quality of life. As the biopsychosocial model gains acceptance in the medical community, health psychologists have increasingly important roles to play on interdisciplinary teams of health care providers. Health psychologists have the potential to have a dramatic impact on the health of individuals by conducting research that contributes knowledge of how psychosocial factors can influence behavioral and disease processes and by intervening to promote health and prevent illness.

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See also Personalities and Behavior Patterns, Type A and Type B; Stress and Coping

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HEDONIC TREADMILL

It is widely assumed that material circumstances strongly affect human happiness. However, as the example of the "poor little rich girl" suggests, objective outcomes and happiness are not perfectly correlated. Indeed, many studies suggest that they are hardly correlated at all. For example, winners of lotteries do not report themselves as being much happier than other people, and those who were paralyzed in an accident do not report themselves as being much less happy. Similarly, as nations get wealthier, the reported well-being of its citizens does not increase.

The lack of evidence for a relation between objective circumstances and reported well-being has given rise to the concept of a hedonic treadmill, on which humans' happiness remains stationary, despite efforts or interventions to advance it. The metaphor is also interpreted to mean that humans' happiness will decline if their material circumstances remain constant.

The hedonic treadmill metaphor draws support from adaptation in other domains. Pleasant smells usually become less intense (and less pleasurable) with continued exposure, and a 70° Fahrenheit room that initially feels delightful when one comes in from the cold ceases to confer pleasure after one has been inside for a while.

Despite the appeal of these analogies, the suitability of the treadmill metaphor remains in question. The conclusion that material circumstances have no effect on welfare seems implausible and objectionable, because it implies that economic inequality is irrelevant, that the poor would be no better off if they were rich.

The principal critique of the research cited on behalf of the hedonic treadmill is that happiness measures rely on subjective self-reports whose interpretation is unclear. When asked "How happy are you on a scale from 0 to 100?" respondents must judge for themselves what the end points of the scale represent. Someone who has lived a tough life might interpret 0 as unrelenting torture and 100 as pleasant comfort, whereas someone who has lived an easy life might interpret 0 as the absence of joy and 100 as heavenly bliss. If these two people each declared their happiness level to be a 60 (out of 100), it would obviously be wrong to conclude that the two people really are equally happy, since one person has adopted a higher standard for the internal feeling that warrants that rating.

Thus, data showing that subjective ratings of happiness remain constant despite objectively improving circumstances could instead be explained by a satisfaction treadmill, whereby improving circumstances lead individuals to adopt successively higher aspirations for the amount of enjoyment they regard as acceptable. To illustrate, consider someone who moves from an apartment with a view of a parking lot to one with a view of the ocean shoreline. According

to the hedonic treadmill hypothesis, the pleasure conferred by the better view diminishes over time, until gazing upon waves crashing into the shoreline brings no more pleasure than formerly derived from gazing upon cars parked on asphalt. By contrast, according to the satisfaction treadmill, the ocean view continues to confer more pleasure, which satisfaction or happiness ratings fail to reflect, because the person has come to adopt higher standards for what constitutes a "great" view or a "great" life (a label they now reserve for living in a home with unobstructed and panoramic ocean views on a more scenic part of the coast).

Though the hedonic treadmill and satisfaction treadmill are competing metaphors, they are not mutually exclusive, and each might contribute to the finding that groups in different circumstances report more similar levels of happiness than one would expect. Resolving the relative role of each is a central challenge for happiness researchers. Researchers are relying increasingly on more objective indicators of happiness, including biological indicators of stress and measures of activation in the areas of the brain that are associated with feelings of pleasure and pain. Some have also advocated moment-based measures, which attempt to reconstruct someone's well-being from his or her moment-to-moment reports of mood. Moment-based measures are simpler and may be less susceptible to scale norming. Respondents need only report how they currently feel when engaged in some particular activity, rather than being required to simultaneously recall and evaluate every aspect of their life.

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See also Happiness; Research Methods; Self-Reports

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HELPING BEHAVIOR

Definition

Helping behavior is providing aid or benefit to another person. It does not matter what the motivation of the helper is, only that the recipient is assisted. This is distinguished from the more general term *prosocial behavior,* which can include any cooperative or friendly behavior. It is also distinguished from the more specific term *altruistic behavior,* which requires that the motivation for assisting others be primarily for the well-being of the other person or even at a cost to oneself.

History and Background

The value of one person helping another is an ancient virtue discussed by the Greeks, evident across cultures and civilizations, and pervasive in world religions. One ancient Greek philosopher, Plato, suggested that groups of people needed to form social contracts to ensure that individuals would restrain their own selfish behavior for the good of others. Aristotle saw human nature as more innately good. He also described the relative positive feelings of the giver and receiver for one another. According to Aristotle, these feelings are greater for the person giving help than the help recipient. The ancient Chinese Confucian value "Jen" is a benevolence or charity toward others and is regarded as the highest of Confucian values.

The ancient Greeks and Chinese are not the only ones concerned with helping behavior. Almost all world religions have some version of the Golden Rule—people should treat others as they would like to be treated. The Christian Bible promotes care for each other, the poor, and the needy. It also tells the parable of the Good Samaritan, who helped a stranger in distress along the roadway. This parable has become the modern ideal model of positive helping behavior. Maimonides, the Jewish Rabbi and philosopher, described the Golden Ladder of Charity, or eight degrees of goodness in helping others. Charity toward others is the third Pillar of Islam (Zakat) and involves an annual obligation to give to those in need. Buddhism's Noble Eight Fold Path encourages helping others through right speech, action, and livelihood. In Hinduism, kindness to all creatures is important because all creatures are manifestations of

God. Furthermore, helping to reduce others' suffering is good karma, or a positive effect that a person's behavior has on subsequent incarnations.

In modern, scientific approaches, social psychologists have been at the forefront of understanding how and why people help others. However, very little was written on helping behavior until a key historical event: the murder of Catherine "Kitty" Genovese on March 13, 1964. The failure of people in the area to help during the attack made newspaper headlines and spurred a great deal of commentary. Social psychologists Bibb Latané and John Darley were inspired to study what decision-making processes were involved in deciding whether to help in an emergency situation. Latané and Darley's work was among the first of thousands of professional journal articles and books on the topic.

Types

In people's everyday lives there are innumerable small acts of helping, like lending a pen to a fellow student. There are also very large acts of helping that include donating large sums of money or rescuing someone from a burning building. P. L. Pearce and P. R. Amato classified the kinds of helping as falling along three dimensions: level of planning and formality, directness of the help, and seriousness of the need. Level of planning and formality can range from very formal and planned, like working as a hospital volunteer each week, to very spontaneous and informal, like helping someone who has dropped some papers in the hallway. Directness of help refers to level of contact with the recipient of help from very direct, like helping a young girl tie her shoes, to very indirect, like mailing off a charity donation to help hurricane victims. Finally, the seriousness of the need should be taken into account. There is a big difference in lending someone a few pennies when he or she is short at the grocery store and doing CPR and rescue breathing on someone who has had a heart attack. The consequences of the former are very small, whereas the consequences of the latter could mean the difference between life and death.

A. M. McGuire described four different types of helping behavior. *Casual helping* involves doing small favors for casual acquaintances, such as letting someone borrow your cell phone for a quick call. If you have ever helped a friend or family member to move, you've engaged in *substantial personal helping*. This helping involves putting out a lot of effort to help someone over an extended time, so that the recipient can have a benefit. *Emotional helping* means providing care and personalized emotional support to another, like listening to a friend who has had a bad day or giving knowledge and advice to someone who requests it. Finally, *emergency helping* is assisting someone who has an acute problem. This would be like calling 911 when you witness a car accident. A concept related to McGuire's classifications of helping behavior is social support, which can involve providing both resources to help a person solve a problem and the emotional or psychological support required to endure the stresses of life's problems.

Importance

The importance of this topic is evident. It is the rare individual who can go through life never needing help from another person. Most people experience some sickness, a car break-down, or other problem in which they need at least the temporary assistance of others, and many people will experience an emergency or personal tragedy for which they will need much greater assistance. Understanding emergency helping behavior can help researchers better predict who will help under what circumstances. Then resources can be focused on getting help where it is most needed at the time it is needed. Community education efforts can increase the timeliness and usefulness of help provided and can direct those in need to appropriate services. Promoting helpfulness is a benefit to individuals, families, and communities. If the community is prepared to be helpful, then the help will be there when each community member needs it. Better understanding helping processes may even lead to ways to prepare those who need help to ask effectively.

Theoretical Explanations

One of the greatest unanswered questions in social psychology is why people help others, particularly if that helping comes at a cost to themselves. Three broad theoretical approaches seek to explain the origins of helping behavior: natural explanations (including evolutionary and genetic explanations), cultural approaches (including sociocultural and social learning explanations), and psychological or individual-level explanations.

Scientists who study evolutionary psychology or sociobiology explore the evolutionary origins of human behavior. They may examine human groups or animal behavior to help learn about the way in which the human species developed and maintained the ability to act prosocially. They believe that evolutionary pressures make people naturally inclined to help others. However, they qualify that people are most likely to help those who will help them pass on their own genes or to pass along similar genes. So, people are more likely to help relatives than nonrelatives. People may be more willing to help their own children than neighbors' children, because one's own child has more related genetic material. Similarly, people are more likely to help others with similar physical, attitudinal, and demographic characteristics because they are more likely to pass along similar genetic characteristics to the next generation. So, people are more likely to help their friends, who are like them, than they are to help strangers, who are not like them. Attractive group members may receive more help, because they are more likely to pass along high-quality genetic traits to the next generation. So, in the evolutionary past, people with helpful characteristics may have been more likely to pass their genes to the next generation, promoting the good of the group and making those characteristics more visible in subsequent generations.

Other scientists argue that it is not genetics and evolution but culture and learning processes that produce helpful people. These scientists use society's rules, called *social norms*, and society's child-rearing processes, called *socialization*, to explain how people become helpful. Perhaps the most universal norm in the world is the norm of reciprocity. This norm suggests that if someone does something for you, you are obligated to do something in return. This social pressure comes with exchange of goods, like birthday presents, and exchange of services, like giving friends a ride in expectation that they'll drive next time. So, to repay their social debt, people are most likely to help those who have helped them in the past. People are also more likely to help those they think might help them in the future, reciprocating their own good deed. Another social norm that relates to helping is the norm of equity. If people perceive themselves to be overbenefited (getting more than their fair share in life) or others to be underbenefited (getting less than their fair share in life), they'll act to fix the inequity. If they can't fix the inequity, however, they may blame the victim

for his or her own misfortune, keeping their perception of a just and fair world in balance. The third major social norm related to helping behavior is the norm of social responsibility. In general, people believe they are responsible for helping those in their society who need help or are dependent on them. For example, people may feel that it is their responsibility to be helpful to children, the infirm elderly, people with physical disabilities, and other groups. This norm of social responsibility is stronger among women than men, and it is stronger among people with a collectivist orientation than among people with an individualist orientation. Also, while people will follow the norm of social responsibility in most cases, they will not follow it if they believe the person to be helped was to blame for his or her own need. For example, a male student may not help a female friend with lunch money if he knows that she spent what should have been her lunch money on video games earlier in the day.

Social psychologists have also explored individual-level explanations for why people help. These explanations concern the rewards received and costs paid for helping and the emotions around helping. People may receive rewards for helping others. These rewards can be physical rewards, like receiving a monetary award for returning a lost wallet; social rewards, like having public recognition of a good deed; or emotional, like feeling good after carrying groceries for an elderly neighbor. Costs associated with *not* helping are also motivating. People may help others specifically to avoid the guilt and shame associated with not fulfilling social obligations. People may also fear the disapproval they would receive from others for not helping. It would look bad if you stood passively aside while someone struggled to get through a door with an armload of boxes, when you could easily have helped them. Social learning theory suggests that to the extent people experience these rewards for helping or costs for *not* helping, they are more likely to help others in the future, expecting the next situation to have similar rewards and costs. So, rewards and costs do not need to be immediate to influence motivation. Sometimes people help others because it will aid their long-term goals of social recognition, fulfill career aspirations, or increase the social reputation, goods, money, and services they may receive in the future. People learn which behaviors produce rewards and which bring costs, beginning with parental teaching and modeling of helpful behaviors and continuing through life as friends, coworkers, and families praise

or criticize people for enacting behaviors. For example, children who are taught to give to the poor through food drives and receive praise for doing so are more likely to continue these behaviors through their life.

Research teams headed by Robert B. Cialdini and C. Daniel Batson have spurred an ongoing debate concerning the role of empathy in motivating helping behavior. Cialdini contends that feelings of empathy produce a merging with the other and experience of that person's emotional pain, so the person helps others to relieve his or her own emotional pain. Batson describes the desire to help another out of empathic concern for the other's well-being as more genuinely altruistic. Altruism is defined as helping another purely for the good of the other person, with no external or internal rewards for the self, and possibly at great cost to one's self. Heroes who rescue people from burning buildings and saintly figures, like Mother Teresa, are often described as altruistic.

Deciding When to Help

Whatever the motivation to help, decisions must ultimately be made to help or not help. Latané and Darley describe a *decision model of helping* for explaining when people will or will not help. This model takes into consideration individual experiences and social situations that make a person less inclined to help. For example, if a person never notices that someone nearby in a noisy restaurant is choking, the person won't be able to help. An example of a situational factor that influences helping behavior is *diffusion of responsibility*. If the same noisy restaurant is crowded with other people who could potentially help the choking victim, any one person is less likely to actually administer assistance, the responsibility for helping is diffused among the group.

In deciding whether to help, the person also takes into consideration the current rewards and costs of helping. Jane A. Piliavin's arousal: cost–reward model explains this process. When a person sees another in distress, such as in an illness or emergency situation, the person may feel empathy and arousal. Piliavin states that this empathic arousal motivates helping a person in need. What the helper actually does to reduce the victim's distress depends on the cost to the helper of acting and the costs for the victim if he or she doesn't receive help. Personal costs for helping include injury, the effort put forth, and potential embarrassment. Costs for the victim not receiving help are the victim's continued distress and the shame, guilt, and social criticism directed at the person who does not help. When the costs to the victim of not getting help are high but the costs for helping are low, like a child running out into a busy street, people are likely to directly intervene (such as catching the child before the child reaches the street). The more dangerous or costly it becomes to the self, the less direct help will be offered. For example, people are less likely to come between two people having a fistfight at an athletic event because of the danger of being hurt themselves. In these cases, people will be more likely to use indirect helping tactics, such as alerting security staff about the fight. Other people reinterpret the event so that they won't have to feel responsible for helping. For example, thinking, "Those unruly drunk guys probably deserve the beating they're getting from each other." When the cost of helping is high and the cost for not helping is low, people often leave the scene or deny that there was ever a need for help. In the ambiguous situation of having a low cost of helping and a low cost to the victim of not getting help, social norms govern whether people will provide assistance.

Gender and Other Individual Differences

There is wide popular perception that women are more helpful than men, more generally kind and nurturing. Yet, awards for heroism are much more likely to go to men than to women. Laboratory studies in social psychology tend to show either that men are more helpful or that both genders are equally helpful. Men play the social role of heroes and protectors in Western society, encouraging helping behavior. Men are typically physically larger and stronger than women, so they may perceive or experience less danger of being hurt themselves in engaging in heroic acts. Therefore, we cannot attribute all of heroism to being biologically wired for helping in emergencies. Some research suggests that women may be more likely to help in the context of ongoing family and friendship relationships. They may also be more likely to help when the task involves doing things related to stereotypical gender roles for women, such as helping a lost child find her parent or delivering meals to someone who has been sick.

Samuel P. Oliner and Pearl M. Oliner studied the personality characteristics of some of the heroes of the Holocaust. These individuals rescued or aided Jewish

people, Polish people, and others who were escaping the Nazi cruelties. The characteristics they identified as important in distinguishing helpers from nonhelpers have been supported in additional controlled research studies. These characteristics include having empathy for victims, that is, understanding the feelings of others and responding to them emotionally. An example would be feeling teary or sad when you see someone crying. In helpers this empathy is other-oriented. That is, it is concern for the welfare of others and a desire to help them. The Oliners also found that helpers had a strong sense of personal responsibility for the welfare of others, a characteristic that comes from high moral reasoning. During the Holocaust, some supervisors and teachers hid their loyal Jewish employees or students until they could escape. Finally, these helpers displayed a high sense of self-efficacy. They believed that they were likely to be helpful as they assisted others. In a natural disaster, the devastation can be so widespread and so many people can be affected that a person might feel overwhelmed and ineffective in what help he or she could offer. However, a person with high self-efficacy might feel that while he or she could not solve the enormity of the problems the natural disaster brought, he or she might be able to help one person or one family with a donation or by volunteering time in the clean-up efforts.

Implications

Research in helping behavior has vast benefits for understanding human behavior, for increasing good outcomes for individuals, and for the overall good of society. To the extent that people understand the behavior, motivations, and personality characteristics of, and situational influences on, helpers, they may be able to increase helpfulness toward those who most need help in their society, benefit from ongoing personal relationships with others, and generally make the world a better place to live. Those who have done research on increasing helpfulness in others have found that explanations of need, and making kind attributions (internal explanations) for those needs, increase helping behavior. Reminding people of their moral responsibilities to help those in need, telling people how to help, and making the victims more human also increase helping behavior. Much research is currently in progress on linking helping to other positive psychological characteristics like gratitude and forgiveness.

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See also Altruism; Altruistic Punishment; Compassion; Cooperation; Decision Model of Helping; Diffusion of Responsibility; Empathy; Empathy–Altruism Hypothesis; Moral Development; Prosocial Behavior; Reciprocal Altruism; Reciprocity Norm; Social Learning; Social Support; Volunteerism

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HELPLESSNESS, LEARNED

Definition

Learned helplessness refers to a phenomenon in which an animal or human experiences an uncontrollable, inescapable event and subsequently has difficulty obtaining desirable outcomes, even when it is easy to do so. The term is often used to explain why

people may display passive, helpless behavior or feel powerless in situations that are actually simple to avoid or change.

Background and History

Martin Seligman and Steven Maier discovered learned helplessness accidentally while conducting behavioral research on negative reinforcement with dogs. They set up a cage with two compartments separated by a shoulder high wall, called a shuttlebox, that allowed the dogs to escape a mild but painful electric shock delivered to the floor of one side by jumping to the other side. Typically, dogs easily learn to escape shocks by jumping over the wall in such devices, but Seligman and Maier found that dogs that had recently experienced unavoidable shock prior to being in the shuttlebox tended to passively accept the shock, even though they could easily escape it. In their classic study, they compared the performance of dogs that had previously received inescapable shock to those who had either received the same amount of escapable shock or no shock prior to being in the box. From this and many follow-up studies, they found that it was the uncontrollable nature of the event experienced in the previous task (rather whether it was desirable or undesirable or led to negative feelings) that was responsible for the dogs' passive behavior afterward.

Their findings sparked further research, using similar methods and using both rewards and punishments, that demonstrated that learned helplessness behavior could be observed in a variety of other species, including cats, fish, birds, gerbils, rats, cockroaches, and humans. Early helplessness research in humans was conducted in much the same way but used somewhat different procedures. Such research typically exposed participants to uncomfortable events (e.g., bursts of loud noise, unsolvable problems) that were either controllable or uncontrollable and then administered a different test task, which participants could control (e.g., solvable problems of another kind, avoiding annoying shock or noise by pressing buttons). The results of these studies were mixed: Sometimes researchers found that humans behaved very similarly to animals and would give up on the second task if they had a previous uncontrollable experience; other researchers found that humans would work even harder on the second task.

Subsequent research on humans has also shown that relatively simple procedures can reduce learned helplessness. Those designed to highlight the connections between a person's behavior and the outcomes, whether it is verbal instruction or giving experience with a controllable task, decreases learned helplessness. Similarly, prompting people to think of different explanations for their poor performance also lessens helplessness. Interestingly, boosting someone's self-esteem and improving their mood beforehand have also been shown to decrease helplessness. In general, research on learned helplessness was part of a broader trend in social psychology in the early 1970s that explored the importance of choice and personal control in optimizing performance and mental functioning. For example, Ellen Langer and Judith Rodin found that giving elderly people a choice of activities and responsibility for caring for a plant increased their well-being and lengthened their lives compared to a similar group who had no choice or responsibilities over the same things.

Reformulated Theory of Learned Helplessness

Over time, it became clear that learned helplessness operated differently in humans than in animals, primarily as a result of humans' ability to observe and explain events in different ways. For example, humans can learn helplessness vicariously by watching another person responding to uncontrollable events, but animals cannot. Also, studies found that *groups* of people working together can experience learned helplessness, which was also unique to humans. Furthermore, certain thinking patterns are associated with helpless behaviors even when an uncontrollable event had not been directly experienced

In the late 1970s, Lyn Abramson, Martin Seligman, and John Teasdale revised and reformulated the theory of learned helplessness to address these and other issues. In their reformulation, they argued that certain ways of explaining negative life events lead people to perceive life events as uncontrollable, which in turn lead to expectations that no behavior can prevent future negative events and other helpless behaviors. These explanations about the causes of events (also known as attributions) are particularly likely to lead to helpless feelings and behaviors when negative events are seen as stemming from internal, stable, and global causes. On the other hand, explanations that focus on external, unstable, and specific causes lead to perceptions that negative outcomes can be controlled and prevented in the future.

Internal attributions refer to causes that stem from the individual, whereas *external attributions* refer to causes outside the individual. For example, if someone fails an exam, an internal attribution might be that the person has bad study skills, while an external attribution might be that the test was too difficult. *Stable attributions* are explanations that suggest causes that do not change, whereas *unstable attributions* are about causes that are likely to change. An example of a stable attribution about a poor exam grade would be that the person is not good at the subject matter, while an unstable attribution would be that the person was distracted by a personal problem that day. *Global attributions* are explanations that focus on a wide variety of outcomes and situations, whereas *specific attributions* focus on few outcomes or situations. "Stupidity" is an example of a global attribution for a poor exam performance, whereas "not liking the teacher's teaching style" is an example of a specific attribution.

While some events may seem to clearly have only one cause (e.g., "I was injured because the flowerpot fell on my head"), people are free to focus on any aspect of the situation that may be relevant (e.g., "I was injured because I'm not observant enough"). As a result, researchers have found that people have typical ways they make attributions about events in their life; these are called *explanatory styles*. For example, in one study, researchers had teachers identify elementary school students who often acted in helpless ways and found that those children were much more likely to have an internal/stable/global explanatory style (as measured earlier in the school year) than those who didn't act helpless. Furthermore, such pessimistic explanatory styles have been shown to influence important life outcomes, like academic performance and a variety of health outcomes, including more frequent illness, dying sooner from cancer, and poorer immune system functioning.

The reformulated approach to learned helplessness theory has also been particularly helpful in understanding mental health problems. For example, many of the characteristics of learned helplessness (e.g., passive behavior, negative thinking, loss of appetite, anxiety) are similar to the symptoms of clinical depression, and researchers have found that learned helplessness has a role in many aspects of depression. Longitudinal studies have found that having a pessimistic explanatory style puts people at greater risk for developing depression later, while an optimistic style (making external/stable/specific attributions) is

associated with recovering from depression more quickly. Furthermore, therapies that focus on changing pessimistic attributions (e.g., cognitive therapy) have been shown to be effective in treating depression. More recent theories have argued that helpless beliefs in combination with the belief that negative events are likely to happen in the future are particularly likely to lead to depression.

Difference Between Learned Helplessness and Similar Behaviors

The concept of learned helplessness has been popular to help explain a wide variety of unhealthy behaviors, from staying in bad relationships to procrastination to spontaneous death to poor performance in sports and business. It is important, however, to distinguish other sorts of helpless behavior from learned helplessness, because sometimes people may behave helplessly for other reasons.

According to Seligman, there are three features that must be present to qualify behavior as learned helplessness: inappropriate passive behavior, experience of uncontrollable events (or at least the perception of uncontrollability), and helpless beliefs. For example, staying in a violent, abusive relationship may or may not be a case of learned helplessness. Although such abuse is often uncontrollable (and perceived as such), staying in the relationship may or may not be a passive response. Some people may give up and stay, whereas others may realize that they have limited options and make a choice to stay. Likewise, many in such relationships believe they are helpless, but others stay because they believe they can change their partner or because they want to make the relationship work. Still other people may act helpless, but do so to get things from others. In sum, human behavior is complex, and helpless behavior is no exception. Learned helplessness theory is a useful tool for explaining some passive behavior but not all.

Anthony D. Hermann

See also Attribution Theory; Control; Learning Theory

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HEURISTIC PROCESSING

Definition

Heuristic processing refers to a mode of thinking that is based on simple decision rules, or if-then associations, that people use to judge the quality or nature of an object. For example, in deciding whether to vote for a particular candidate, a person might rely on the opinion of an expert (using the heuristic "if expert, then agree"), or on the prevailing view of friends and family ("if there's a consensus, then assume correctness"). Heuristic processing is most likely to influence people's attitudes when their motivation to think about something is low (e.g., when they do not care very much about the outcome of an election) and when their ability to think carefully is constrained (e.g., when they are stressed out or pressed for time). It is a relatively easy and efficient way to make judgments, but it can also lead to mistakes.

Background and History

In the 1970s and 1980s, persuasion researchers joined other social psychologists in focusing on the cognitive processes underlying the effects they studied. In other words, they wanted to know not just what variables cause attitudes to change but also why and how attitude change occurs. At first, most major theories of persuasion assumed that attitude change always occurs as a result of careful thought. This suggests that messages evoking positive thoughts about an issue will be persuasive, whereas messages that lead to negative thoughts will be unpersuasive.

In the 1980s, two dual-process models of persuasion were developed: the elaboration likelihood model, developed by Richard Petty and John Cacioppo, and the heuristic-systematic model, developed by Shelly Chaiken. These dual-process models recognized that careful, effortful thinking about issues only occurs when people are both motivated and able to process information in such a systematic way. Otherwise, these theorists reasoned, attitude change will occur based on less meaningful, more efficient ways of thinking about information.

To describe such a way of thinking, Shelly Chaiken looked to another area of social psychology, where Daniel Kahneman and Amos Tversky had popularized the term *heuristic* in their studies of biases in human decision making. Here, a heuristic describes a well-learned (and therefore quite efficient) rule of thumb that helps people solve a problem or form a judgment but which leads to biases or errors when applied in the wrong circumstances. In Chaiken's heuristic-systematic model of persuasion, heuristic processing describes attitude change that occurs based on people's use of these well-learned decision rules. The distinction made in the heuristic-systematic and elaboration likelihood models between two kinds of information processing (the effortful, reflective, systematic mode and the quick, associative, relatively automatic heuristic mode) has become important in many other areas of social and cognitive psychology.

Importance and Consequences

Heuristic processing can influence attitude change in two major ways. First, when motivation and ability to think about information are both low, heuristic processing directly influences attitude change. In such situations, people tend to depend on heuristic cues (such as the likeability, attractiveness, and expertise of the communicator) in forming their opinions and judgments. This way of thinking about information is often very useful and efficient. For instance, it saves people a lot of time and effort to assume that experts are typically correct, and it allows them to make (often good) decisions about important issues such as whether to take a medicine or what kind of cars are safe to drive. However, experts are not always right, and trusting them can sometimes lead people to make decisions different (and poorer) than the ones they would have made had they considered all the information for themselves. For example, diet fads are frequently endorsed by "experts" but often turn out to be bogus or downright harmful.

The second way in which heuristic processing can influence attitude change is by biasing the direction of the systematic processing that occurs when motivation and ability to think about information are sufficiently high. In other words, these relatively automatic associations people make based on well-learned decision rules can lead them to have certain expectations about the information they will encounter, which can affect how they think about that information. For instance, if Jill learns that her sorority supports a tuition increase to improve the quality of on-campus housing, she may invoke the heuristic "if ingroup, then agree." If she is motivated and able to consider

this issue more carefully, she will probably go on to evaluate arguments for and against the tuition increase. But, her initial expectation (based on heuristic processing) that her sorority's position is the correct one may bias the way in which she thinks about the arguments presented. She may selectively attend to arguments that confirm her sorority's position and elaborate on them in ways that increase their persuasiveness (e.g., she might think to herself, "Not only would improved housing make our lives better as current students, but it would also help attract new students to the school"). Meanwhile, she may dismiss arguments against the tuition increase, or she may search more carefully for the flaws that she expects these arguments to have based on her initial use of the ingroup agreement heuristic ("Sure, tuition is already high, but if you can't afford it, you get a scholarship, so this will only affect people who have enough money to pay anyway").

To study heuristic processing, persuasion researchers typically present participants with some information about a particular issue (such as whether a university should have comprehensive exams). Researchers can influence participants' motivation to think about information by manipulating whether the issue is of high or low relevance (e.g., whether the comprehensive exams will be implemented the following year or the following decade). They can influence participants' ability to think carefully about information by manipulating either the time allotted for the task or the amount of distraction in the environment. They can also manipulate aspects of the message or the person communicating the message. Using such methods, researchers have shown that when motivation and ability to process information are kept low, persuasion depends primarily on heuristic cues. For instance, participants are more persuaded when a communicator is attractive, likeable, and expert, versus when the communicator is not; when there are many arguments in favor of an issue rather than only a few; and when a consensus opinion or a social ingroup favors the issue, versus when it does not. When motivation and ability to process are higher, research shows that a heuristic cue (such as the credibility of the communicator) biases the direction of systematic thinking about a message and the resulting attitude change (so that, e.g., participants who hear a highly credible communicator show more favorable systematic processing of that communicator's message, and more attitude change in the direction of the message, than do participants who hear a communicator with low credibility).

Shelly Chaiken
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See also Affect Heuristic; Availability Heuristic; Dual Process Theories; Elaboration Likelihood Model

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HEURISTIC-SYSTEMATIC MODEL OF PERSUASION

Definition

The heuristic-systematic model is a theory of persuasion that suggests attitudes can change in two fundamentally different ways. One way is through systematic processing, whereby people think carefully about any available information when forming an opinion to determine whether the information is accurate or valid. Attitudes are then based on the conclusions from this careful consideration of the facts. However, this kind of thinking takes a lot of effort, and given that people usually only have limited time and ability to think carefully, the heuristic-systematic model suggests that attitudes are often formed in a more simplified manner. This simplified form of attitude judgment is called *heuristic processing,* and it involves using rules of thumb known as heuristics to decide what one's attitudes should be. This model of persuasion has received a great deal of empirical support in the social psychology research literature and has had a major impact on applied fields of research like health behavior and consumer behavior.

Common Heuristics

A number of different persuasion heuristics can be used to form opinions. For instance, when using the *consensus heuristic,* attitudes are simply based on the opinions that the majority of other people hold. In this case, people infer that "if everybody believes something, then all those people must be right." For example, a political speech might be more convincing when a lot of people in the audience clap than when fewer people clap, and a consumer product might seem better when it is the last one left on the shelf. The *expert heuristic* is another simple basis for determining attitudes. In this case, attitudes are based on the opinions or recommendations of trusted and knowledgeable experts. The inference here is that "experts are usually right." For instance, if a dentist recommends a certain type of toothpaste for fighting cavities, then it must work, or if astronauts drink Tang for breakfast, then it must be good or nutritious. Finally, the length of the message itself can be used as a rule of thumb for persuasion, even without thinking carefully about the information the message contains. The *message length heuristic* suggests that longer messages, which seem to contain a lot of arguments, are more convincing because people infer that the length of the message implies it is strong or correct (i.e., length implies strength). For instance, the same essay might be more convincing when presented in double-spaced format than when it is in single-spaced format, even though the content of the essay is exactly the same in both instances. Importantly, the model suggests that heuristic rules of thumb are only used to the degree that the rule seems valid and reliable. Not everyone thinks experts are always right, and in such cases, people are obviously less likely to follow expert advice. Also, the consensus heuristic may be called into question when a political poll is based on a very small number of respondents, in which case people tend to stop using this heuristic.

Bias in Persuasion

The heuristic-systematic model suggests that opinions can be biased in a number of different ways. For instance, heuristic rules can bias the thoughts that people have when they are thinking carefully about an issue (i.e., heuristics can bias systematic processing). This is the case, for instance, when an argument seems more likely to be correct or persuasive because it comes from an expert compared to when the same argument comes from a less impressive information source. For instance, arguments suggesting that Acme brand is the best on the market seem more likely to be true when these arguments come from an expert source like *Consumer Reports* magazine than when the same arguments come from a less credible source like Wal-Mart.

The heuristic-systematic model also suggests that certain motives or goals can bias attitudes. People are typically assumed to be motivated to form accurate or correct opinions, known as *accuracy motivation.* However, in some cases, defensive motives or impression motives can also have an impact on attitudes. *Defensive motives* can bias attitudes by making people more likely to agree with information that suits their own self-interests, or desired perceptions. People tend to agree more with government policies that provide economic benefits for themselves versus policies that offer the same benefits to someone else. Also, most people have a more positive attitude toward themselves than other people have of them. *Impression motives* provide another important source of motivation that can lead to biased attitudes. In this case, individuals tend to alter their opinions so that they match the attitudes of important others to fit in or get along with those other people. For instance, students may exaggerate the extent to which they like the Beatles because they think their friend likes that group, and they wish to maintain that friendship. Or students may exaggerate their liking for a particular class when talking to the instructor, to foster positive interactions with the instructor in the future.

While heuristic rules certainly lead people to the wrong conclusion at times, the use of such heuristics is an essential aspect of everyday life. Persuasion heuristics provide a relatively easy way to make the numerous evaluations people are burdened with in their daily lives, and the use of these heuristics often leads people to adopt perfectly reasonable opinions. For instance, many inexperienced consumers find it difficult to buy their first automobile or computer because there are a lot of makes, models, and features to consider, and novice consumers tend to lack the background knowledge needed to evaluate all of this technical information. In situations like this, simple rules of thumb can help greatly in making evaluations (e.g., the car recommended by *Consumer Reports* is probably good).

Peter Darke

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Hindsight Bias

Definition

Recollection or reevaluation of past events can be
affected by what has happened since. In particular,
once people know the outcome of an event, they tend
to overestimate what could have been anticipated in
foresight. This effect has been termed *hindsight bias*
or the *knew-it-all-along* effect.

Designs, Materials, and Measures

Two different general experimental procedures are
usually employed. In the *memory* design, people first
give an (unbiased) answer, then receive the solution
and are finally asked to recall their earlier, original
answer. In the control situation, the same items are
given to other people without providing them with the
solution before they recall their original answer. In the
hypothetical design, people receive the solution right
away and are then asked to provide the answer they
would have given without this knowledge. In the con-
trol situation, other people are asked for their answers
without giving them the solution beforehand.
Generally, hindsight bias is said to exist whenever the
estimates made in hindsight lie closer to the solution
than those made in foresight, and when the measure
that captures this difference is significantly larger than
for a control group.

The phenomenon is very robust across content
domains. It has been found in general-knowledge ques-
tions, in political or business developments, in predic-
tions of elections or sport results, in medical diagnoses
or in personality assessment, to name only a few. It is
also very robust across type of tasks. The following list
is probably not exhaustive, but it covers most of the
types that have been used. Hindsight bias has been

found with two-alternative-forced-choice tasks, both
with respect to choices and to confidence in their cor-
rectness ("Which city has more inhabitants, London or
Paris?"), with confidence in the correctness of asser-
tions ("True or false: London has more inhabitants
than Paris"), with numerical questions ("How many
inhabitants does London have?"), with predicting out-
comes of survey questions on a percentage scale
("How many German households currently have
Internet access?"), with rating the likelihoods of possi-
ble developments of a given scenario (e.g., outcomes
of international conflicts, patient histories, or conse-
quences of business decisions) or with answers on
closed rating scales using a few categories (e.g., rating
one's own or someone else's performance, school
grade, satisfaction or personality traits).

The most common measures in the memory design
compare pre- and post-outcome estimates with respect
to their distance to the solution (in the hypothetical
design, pre-outcome and post-outcome estimates are
obtained between-subjects). If the task requires an
answer on a limited scale (e.g., a dichotomous choice
or an answer on a percentage scale), the measure can
be simplified by more or less directly comparing the
responses given in foresight and those given in hind-
sight. The memory design involves repeated measure-
ment; therefore, one can and should, in addition,
determine the proportion of correct recollections.
Because correct recollections have a bias of zero and
thus diminish the overall effect, they may contribute
to the finding that hindsight bias is typically smaller in
the memory than in the hypothetical design.

Relevance, Related Phenomena, and Theoretical Accounts

Hindsight bias is one of the most frequently cited cog-
nitive biases. It possesses relevance for theories about
memory storage and retrieval of information but has
several practical implications as well. Consider, for
example, a physician who, knowing the diagnosis a
colleague has made, is asked for a second opinion. Or
consider a researcher who is asked to review a manu-
script but knows the opinion of another reviewer.
Many studies have shown that the new and allegedly
independent judgements are most likely biased toward
those that are already available. In other words, sec-
ond judgments are less independent from previous
ones than one would like to think. Moreover, feeling
wiser in hindsight could also lead people to wrong

predictions of how they would have reacted in that situation (i.e., without the knowledge of how things would turn out). For example, having understood why the Space Shuttle *Challenger* disaster occurred may affect one's evaluations of the people involved and their omissions and commissions.

An experimental paradigm that is closely related to that of hindsight-bias studies is employed in studies on *anchoring.* In a hindsight-bias experiment using a hypothetical design, participants are informed about the solution and are then asked what they would have estimated. In contrast, studies on anchoring do not provide the solution but introduce an allegedly random value. Participants are then asked to indicate whether the true solution lies above or below this value, and subsequently they give an exact estimate. Both procedures lead to comparable distortions suggesting that the hindsight bias and anchoring effects may be driven by similar (if not identical) cognitive processes.

Other related research paradigms are the *misinformation effect,* observed in studies on eyewitness testimony (according to which, memory of events is systematically distorted due to presumptive questions afterward), and the *reiteration effect* (according to which, the confidence in the correctness of a statement increases due to mere reiteration of this statement). Both of these phenomena involve a change of a response over time, in the case of the misinformation effect due to additional information from a different source (followed by the question, "What was the information in the original source?"), and in the case of the reiteration effect due to another presentation of the same statement (followed by the question, "How confident are you now that this statement is true?").

Two major classes of theoretical accounts have been proposed: motivational accounts and cognitive accounts. Although they do not exclude each other and although there is evidence for both, the overall picture suggests that cognitive factors are more important. Within the group of cognitive explanations, some favor the view that memory of the original response is impaired due to outcome information, whereas others locate the bias in systematic distortions when reconstructing the original response.

Ulrich Hoffrage

See also Anchoring and Adjustment Heuristic; Eyewitness Testimony, Accuracy of; Memory

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HISTORY OF SOCIAL PSYCHOLOGY

Social psychology is only a bit older than 100 years, with most of the growth occurring during the past 6 decades. In discussing the discipline's history, it should be noted that there are two social psychologies, one in psychology and the other in sociology, with the larger of the two being the psychological branch. The central focus of psychological social psychology is how the individual responds to social stimuli, whereas sociological social psychology focuses on larger group or societal variables, such as people's socioeconomic status, their social roles, and cultural norms. Although there have been calls to merge the two branches into a single field—and even a joint psychology–sociology doctoral program at the University of Michigan from 1946 to 1967—their different orientations make it doubtful that this will transpire in the foreseeable future. In this historical overview, the psychological branch of the discipline will be highlighted.

Individualism as a Cultural Belief System Shaping Social Psychology

The most important cultural factor shaping social psychology has been the ideology of individualism, which is a cultural belief system asserting that society is a collection of unique individuals who pursue their own goals and interests and strive to be relatively free from the influence of others. In individualism, the focus is on the person, and individual needs are judged more important than group needs. In contrast, the belief

system of collectivism asserts that people become human only when they are integrated into a group, not isolated from it. From this perspective, group needs are more important than individual needs. Approximately 70% of the world's population lives in cultures with a collectivist orientation. However, social psychology developed primarily within individualist societies, and as a result, the discipline has a distinct individualist orientation.

Dawning of a Scientific Discipline: 1862–1895

German psychologist Wilhelm Wundt, who is widely regarded as the founder of psychology, had a hand in the early development of what would become social psychology. Beginning in the 1870s, European and North American scholars and students came to the University of Leipzig to learn about Wundt's research on the components of the conscious mind. Among these visitors were Émile Durkheim, Charles Judd, Willy Hellpach, and George Herbert Mead, who later developed some of the theoretical underpinnings of the new discipline of social psychology.

Early in Wundt's career, he predicted that there would be two branches of psychology: physiological psychology and social or folk psychology (*Völkerpsychologie*). His reasoning in dividing psychology into two branches was his belief that the type of individual psychology studied in the laboratory by physiological psychologists could not account for the type of higher mental processes exhibited during social interaction. Although social behavior consists of distinct individuals, Wundt argued that the product of this social interaction is more than the sum of the individuals' mental activities. Because of this distinction, Wundt asserted that while physiological psychology was part of the natural sciences, aligned with biology, social psychology was a social science, with its parent discipline being philosophy. He further argued that whereas physiological psychologists should conduct experiments in studying their phenomena, social psychologists should employ nonexperimental methods because such an approach best captured the complexity of social interaction. Wundt devoted the first half of his career to physiological psychology and the second half to social psychology, with his study of language and the group mind preparing the ground for later collaborative work between psychologists and social anthropologists. Largely due to Wundt's influential writings and the works of philosopher Moritz Lazarus and humanist Heymann Steinthal, by 1900 Germany's annual bibliography of the psychological literature listed more than 200 articles per year under the heading "social psychology."

Despite the fact that Wundt's 10 volumes of writings on social psychology influenced scholars in Europe, his work remained largely inaccessible to American social scientists because it was not translated into English. Part of the reason for this intellectual freezing out of his ideas was that Wundt's strident support for German nationalism before and after World War I effectively cut him off from his many former students in America. Further hindering Wundt's ability to effectively shape the ideas of young American scholars was the fact that these young scientists were much more interested in being identified with the natural sciences than with continuing an alliance with philosophy. Although Wundt's notion that social psychology was a social science was compatible with the 19th-century conception of psychology as the science of the mind and was embraced by a number of European scholars, it was incompatible with the new behaviorist perspective in the United States that emerged during the early years of the 20th century.

Underlying behaviorism was a philosophy known as logical positivism, which contended that knowledge should be expressed in terms that could be verified empirically or through direct observation. This new science of behavior had little use for Wundt's conception of social psychology and his admonition that social scientists rely on nonexperimental methodology. An emerging American brand of social psychology defined itself in terms of both behaviorist principles and the reliance on the experiment as its chosen research method. This was especially true for the social psychology developing in psychology, but less so for sociological social psychology. Psychological social psychology in America, which would become the intellectual core of the discipline, developed largely outside the realm of Wundtian influence. In contrast, American sociological social psychology was indirectly affected by Wundt's writings because one of its intellectual founders, George Herbert Mead, paid serious attention to the German scholar's *Völkerpsychologie*. Today the Meadian-inspired symbolic interactionist perspective remains an active area of theory and research in American sociology.

The Early Years: 1895–1935

An American psychologist at Indiana University, Norman Triplett, is credited with conducting the first empirical social psychological study in 1895. Investigating how a person's performance of a task changes when other people are present, Triplett asked children to quickly wind line on a fishing reel either alone or in the presence of other children performing the same task. As predicted, the children wound the line faster when in the presence of other children. Published in 1897, this study formally introduced the experimental method into the social sciences. Despite this accomplishment, Triplett did nothing to establish social psychology as a distinct subfield of psychology.

Credit for establishing social psychology as a scientific discipline is traditionally given to the first authors of textbooks bearing that title, namely, English psychologist William McDougall and American sociologist Edward Ross, who each published separate texts in 1908. Consistent with the contemporary perspective in psychological social psychology, McDougall identified the individual as the principal unit of analysis, while Ross, true to the contemporary sociological social psychology perspective, highlighted groups and the structure of society. Ross's focus was consistent with previous work on crowd psychology by French social scientist Gustave Le Bon. Unfortunately for McDougall, his brand of social psychology proposed that social behavior was rooted in instincts and Darwinian evolutionary processes, a theoretical assumption soon opposed by the emerging behaviorist perspective that emphasized learning and the importance of the immediate environment in shaping behavior. Thus, McDougall's social psychology did not gain an adequate foothold among American psychologists to become an effective orientation toward theory and research. Indeed, evolutionary-based explanations of social behavior remained largely outside the theoretical domain of social psychology for the next 80 years.

If McDougall failed to properly rally fellow social scientists around his explanation of the root cause of social behavior, who is generally recognized as providing this emerging discipline with a specific focus? The common answer is Floyd Allport. In 1924, Allport published a third social psychology text that went a long way in establishing a distinct identity for psychological social psychology in America. Reading his words today, one can see the emerging individualist perspective that would soon permeate the psychological branch of the field:

> I believe that only within the individual can we find the behavior mechanisms and consciousness which are fundamental in the interactions between individuals. . . . There is no psychology of groups which is not essentially and entirely a psychology of individuals. . . . Psychology in all its branches is a science of the individual. (p. 4)

Allport's conception of social psychology was proposed 11 years after John Watson ushered in the behaviorist era in American psychology. His brand of social psychology emphasized how the person responds to stimuli in the social environment, with the group merely being one of many such stimuli. Beyond this emerging individualist and behaviorist stamp, Allport further shaped the identity of American social psychology by extolling the virtues of the experimental method in studying such topics as conformity, nonverbal communication, and social facilitation. Allport's call for the pursuit of social psychological knowledge through carefully controlled experimental procedures contrasted with the more philosophical approach that both Ross and McDougall had taken 16 years earlier.

The advantage of the experiment for social psychology was that it allowed the researcher to systematically examine the effects of single variables, either alone or in selected combination, while holding all other variables constant. However, by stressing laboratory experiments in the study of social phenomena, Allport's conception of social psychology downplayed or altogether ignored cultural and historical levels of reality and, instead, emphasized how individuals respond to the presentation of social stimuli. The individual was studied as an object that was either on the receiving end of these social influences or on the manipulating end of them. In such analyses, there was little consideration given to the possibility that people's social behavior was influenced by their actively considering how the present situation was understood based on their previous social and cultural experiences. During this same time period, the less experimentally focused version of American sociological social psychology was much more likely to consider the cultural and historical context of social behavior.

During the 1920s, one notable indication that social psychology had become a legitimate area of inquiry

within the larger discipline of psychology was Morton Prince's decision in 1921 to change the name of the publication, *Journal of Abnormal Psychology,* to that of the *Journal of Abnormal and Social Psychology* and to add Floyd Allport as a cooperating editor. At this time, the personality perspectives employed by American psychologists to understand mental disorders reflected both European psychoanalytic ideas and American formulations (such as the trait and behaviorist approaches) that expressly rejected Freud's basic assumptions concerning infantile conflicts and unconscious motives. Including social psychology within this discussion was a public recognition within American psychology that a more complete understanding of human interaction would be achieved by studying both personality and situational factors. Furthermore, this alignment of Allport's behaviorist brand of social psychology with the area of clinical or abnormal psychology was another means of strengthening the behaviorist stamp on American psychology.

As Allport's conception of social psychology gained adherents, one of his basic assumptions about the social group did not go unchallenged. In the early 1930s, Turkish-born Muzafir Sherif's research on social norm development was partly spurred by his disagreement with Allport's belief that a group was merely a collection of individuals and that no new group qualities arise when individuals form into a collective entity. Perhaps influenced by his culture's collectivist orientation, Sherif countered that a group was more than the sum of its individuals' nongroup thinking, and he tested this hypothesis by studying in the laboratory how norms develop in a group. These now-famous autokinetic experiments identified important social dynamics underlying socialization and the more general process of social influence. Ten years later, Theodore Newcomb extended Sherif's findings outside the laboratory with his longitudinal field studies of reference group influence at Bennington College. Sherif's social norm research was also important in the history of social psychology because it was one of the first demonstrations of how complex and realistic social situations could be studied in a laboratory setting.

Overseas, German social psychology was being shaped by the Gestalt perspective, which rejected both the existing European-inspired notion of a group mind and the American individualist stand that groups were not real in themselves. Instead, Gestalt social psychologists contended that the social environment is made up not only of individuals but of relations between individuals, and these relationships have important psychological implications. Thus, Gestalt social psychologists promoted an understanding of groups as real social entities, which directly led to the tradition of group processes and group dynamics that still exists today. These two schools of thought within psychological social psychology, one in America and the other in Germany, which were developing independent of one another, would soon be thrust together due to events on the world scene.

The Coming of Age: 1936–1945

During the first three decades of the 20th century, Allport's conception of social psychology emphasized basic research, with little consideration given to addressing specific social problems or broader issues bearing on reform. However, by the mid-1930s, the discipline was poised for further growth and expansion. The events that had the greatest impact on social psychology at this critical juncture in its history were the Great Depression in the United States and the social and political upheavals in Europe generated by World Wars I and II.

Following the stock market crash of 1929, many young psychologists were unable to find or hold jobs. Experiencing firsthand the impact of societal forces, many of them adopted the liberal ideals of the Roosevelt New Dealers or the more radical left-wing political views of the socialist and communist parties. In 1936 these social scientists formed an organization dedicated to the scientific study of important social issues and the support for progressive social action. This organization, the Society for the Psychological Study of Social Issues (SPSSI), had as members many social psychologists who were interested in applying their theories and political activism to real-world problems. One of the important contributions of SPSSI to social psychology was, and continues to be, the infusion of ethics and values into the discussion of social life. Its immediate impact on social psychology in the 1930s was to infuse a more applied character to research. New areas of research spawned during this decade were intergroup relations, leadership, propaganda, organizational behavior, voting behavior, and consumer behavior.

In other countries, world events triggered changes that further distinguished American social psychology from its scientific cousins abroad. For example, the

communist revolution in Russia at the end of World War I led to a purging of individualist-oriented research and theorizing, a development that stood in stark contrast to the increasing focus on the individual within American social psychology. In 1936, the Soviet Union's Communist Party forbade the use of psychological tests in various applied settings, which effectively prohibited the study of individual differences. At the same time, the rise of fascism in Germany, Spain, and Italy created a strong anti-intellectual and anti-Semitic atmosphere in these countries. To escape this persecution, a number of Europe's leading social scientists, such as Fritz Heider, Gustav Ichheiser, Kurt Lewin, and Theodor Adorno, emigrated to America. When the United States entered the war, social psychologists, both American and European, applied their knowledge of human behavior in a wide variety of wartime programs, including the selection of officers for the Office of Strategic Services (the forerunner of the Central Intelligence Agency), persuading housewives to cook with less desirable meat products, and developing propaganda to undermine enemy morale. The constructive work resulting from this collaboration demonstrated the practical usefulness of social psychology to those governmental and philanthropic bodies that would later fund research.

During this time of global strife, the most influential social psychologist was Kurt Lewin, a Jewish refugee from Nazi Germany. Lewin was instrumental in founding SPSSI and served as its president in 1941. He firmly believed that social psychology did not have to choose between being either a pure science or an applied science. His oft-repeated maxim "No research without action, and no action without research" continues to influence social psychologists interested in applying their knowledge to current social problems. By the time of his death in 1947 at the age of 57, Lewin had profoundly shaped the future course of social psychology.

With the end of the war, prospects were bright for social psychology in North America. Based on their heightened scientific stature, social psychologists established new research facilities, secured government grants, and, most important, trained graduate students. These future social psychologists were predominantly White, male, and middle class. As in other professions, many of these graduate students were returning soldiers whose education was funded by the federal government under the new GI Bill. Having grown up during the Depression and influenced by the

politics of New Deal Democrats, many young social psychologists held liberal values and beliefs that shaped their later research and theories. Many of their mentors were the European scholars who had fled their native countries and then remained in America following the war. Dorwin Cartwright suggests that the political leanings of these young social psychologists may partly explain why, up until the 1960s, it was difficult to establish strong social psychology programs in the Old South where firmly entrenched social conservativist and segregationist policies directly opposed liberal social reforms.

While social psychology was flourishing in America, the devastating effects of the world war seriously hampered the discipline overseas, especially in Germany. In this postwar period, the United States emerged as a world power, and just as it exported its material goods to other countries, it exported its social psychology as well. Beyond the influence exerted by the liberal leanings of its members, this brand of social psychology also reflected the political ideology of American society and the social problems encountered within its boundaries.

Rapid Expansion: 1946–1969

With its infusion of European intellectuals and the recently trained young American social psychologists, the maturing science of social psychology expanded its theoretical and research base. To understand how a civilized society like Germany could fall under the influence of a ruthless demagogue like Adolf Hitler, Theodor Adorno and his colleagues studied the authoritarian personality, which analyzed how personality factors emerging during childhood shape later adult obedience and intolerance of minorities. Some years later, Stanley Milgram extended this line of research in his now famous obedience experiments, which examined the situational factors that make people more likely to obey destructive authority figures. Other social psychologists, inspired by Lewin's interpretation of Gestalt psychology, focused their attention on the dynamics of small groups.

At Yale University, Carl Hovland and his colleagues relied on behaviorist principles in investigating the power of persuasive communication. To a large degree, the impetus for this research came from concerns aroused during World War II about propaganda, military morale, and the integration of ethnic minorities into the armed services. Social psychology's overall

attention to research and theory involving social influence and social dilemmas during the 1950s were undoubtedly shaped by anxieties over the stifling of political dissent precipitated by a more general fear of communism and issues surrounding the international conflict with the Soviet Union.

Social psychology's concern with societal prejudice continued to assert itself during the 1950s. For example, the 1954 U.S. Supreme Court decision to end the practice of racially segregated education was partly based on Kenneth Clark and Mamie Phipps Clark's research indicating that segregation negatively affected the self-concept of Black children. In that same year, Gordon Allport (brother of Floyd Allport) provided a theoretical outline for how desegregation might reduce racial prejudice. What came to be known as the contact hypothesis was a social psychological blueprint for reducing hostility between groups by manipulating situational variables. This perspective toward understanding and "fixing" prejudice better fit the behaviorist social psychology practiced in America than the earlier developed authoritarian personality approach.

Another significant line of research begun during the 1950s was Leon Festinger's theory of cognitive dissonance. Festinger, a former graduate student of Lewin, asserted that people's thoughts and actions were motivated by a desire to maintain cognitive consistency. The simplicity of the theory and its often-surprising findings generated interest both inside and outside of social psychology for many years. However, the sheer volume of dissonance research declined during the latter part of the 1960s principally because the main propositions of the theory had been sufficiently confirmed in numerous studies.

The decade of the 1960s was a time of social turmoil in the United States, with the country caught in the grip of political assassinations, urban violence, social protests, and the Vietnam War. People were searching for constructive ways to change society for the better. Following this lead, social psychologists devoted more research to such topics as aggression, helping, attraction, and love. The groundbreaking research of Elaine Hatfield and Ellen Berscheid on interpersonal and romantic attraction, for example, not only was important in widening the scope of social psychological inquiry, but it also generated considerable controversy outside the field. A number of public officials and ordinary citizens thought social scientists should not try to understand the mysteries of romance. Less controversial was the bystander intervention research conducted by Bibb Latané and John Darley, which was inspired by the 1984 murder of Kitty Genovese in New York City.

Crisis and Reassessment: 1970–1984

During the 1960s, as the federal government expanded its attempts to cure societal ills with the guidance of social scientists, the number of social psychologists rose dramatically. Among these new social scientists were an increasing number of women and, to a lesser degree, minority members. Whole new lines of inquiry into social behavior commenced, with an increasing interest in the interaction of the social situation with personality factors. Today this interactionist perspective is reflected in the titles of social psychology's two premier journals, *Journal of Personality and Social Psychology* and *Personality and Social Psychology Bulletin*.

The explosion of research in the 1960s played a part in another explosion of sorts in the area of research ethics because a few controversial studies appeared to put participants at risk for psychological harm. The most controversial of these studies was the previously mentioned obedience experiments conducted by Milgram in the 1960s, in which volunteers were ordered to deliver seemingly painful electric shocks to another person as part of a learning experiment. In reality, no shocks were ever delivered—the victim was a confederate and only pretended to be in pain—but the stress experienced by the participants was indeed real. Although this study and others of its kind asked important questions about social behavior, serious concerns were raised about whether the significance of the research justified exposing participants to potentially harmful psychological consequences. Spurred by the debate surrounding these issues, in 1974 the U.S. government developed regulations requiring all institutions seeking federal funding to establish institutional review boards that would ensure the health and safety of human participants.

At the same time that concerns were being raised about the ethical treatment of human participants in research, social psychologists were questioning the validity of their scientific methods and asking themselves whether their discipline was a relevant and useful science. When social psychology first emerged from World War II and embarked on its rapid expansion, expectations were high that social psychologists

could work hand in hand with various organizations to solve many social problems. By the 1970s, when these problems were still unsolved, a crisis of confidence emerged. Indeed, Kenneth Gergen argued that social psychology should be regarded as a historical discipline, not a scientific enterprise, because the psychological principles underlying social behavior often change over time and across cultures. When this disappointment and criticism of social psychology was followed by accusations from women and minorities that past research and theory reflected the biases of a White, male-dominated view of reality, many began to reassess the field's basic premises. Fortunately, out of this crisis emerged a more vital and inclusive field of social psychology, employing more diverse scientific methods while also having more diversity within its membership.

The 1970s is also important in the history of social psychology because it was the decade in which a theoretical shift occurred in a recurring debate concerning the nature of human behavior. Over the years, some social psychologists assumed that people are moved to act primarily due to their needs, desires, and emotions. This "hot" approach to understanding human nature argues that cool, calculated planning of behavior is secondary to heated action that fulfills desires. The alternative viewpoint is that people's actions are principally influenced by the rational analysis of choices facing them in particular situations. Followers of this "cold" approach assert that how people think will ultimately determine what they want and how they feel. In the 1950s and 1960s, the hot perspective was most influential, but by the 1980s the cold perspective dominated the thinking within social psychology due to the importing of ideas from cognitive psychology and the resulting ascendancy of social cognition.

Attribution theory represented one of the early attempts by social psychologists to test models in which social judgments were thought to be determined by rational and methodical cognitive processes. The various attribution theories developed during this time drew considerable inspiration and insight from the separate earlier works of Austrian-born social psychologists Gustav Ichheiser and Fritz Heider. Whereas Heider's work has long been widely recognized as shaping the development of attribution theory, Ichheiser battled mental illness and his contributions are only recently being recognized. Beyond attribution theory, additional social cognitive theories began providing

numerous insights into how people interpret, analyze, remember, and use information about the social world, and this perspective infused new energy into areas such as attitudes, persuasion, prejudice, intimacy, and aggression. It remains the dominant perspective within contemporary social psychology.

Accompanying the social cognitive emphasis and the increased interactionist orientation of research was renewed interest in the concept of the self, which previously had been the focus of only sociological social psychologists. Although the self had been an implicit notion in attitude research and other areas of social psychological inquiry for many years, the radical behaviorism infusing American psychology since 1913 had relegated the study of the self into a Dark Age of sorts in academia. With the waning influence of behaviorism, psychological social psychologists rediscovered the insights of founding social scientists such as William James, John Dewey, Charles Horton Cooley, and George Herbert Mead. This renewed attention to the self was a fulfillment of a wish expressed by Gordon Allport in his 1943 presidential address to the American Psychological Association, in which he stated, "One of the oddest events in the history of modern psychology is the manner in which the self became sidetracked and lost to view." Thirty years after this pronouncement, the self was on its way in becoming a central concept within psychological social psychology.

Expanding Global and Interdisciplinary View: 1985–Present

By the 1970s, both European and Latin American social psychological associations had been founded, and in 1995, the Asian Association of Social Psychology was formed. The social psychology that developed overseas placed more emphasis on intergroup and societal variables in explaining social behavior than did its American cousin. For example, French social psychologist Serge Moscovici examined the process by which shared cultural experiences shape people's social perceptions and how minority groups trigger social innovation and change. Similarly, Henri Tajfel and John Turner's analysis of group processes and social perception contended that social psychologists should analyze the relations between groups and how group life shapes the social identity and thinking of the individual. Tajfel's work on categorization was also used to understand the process of stereotyping.

The contributions of these European social psychologists are best seen as intellectual descendants of 19th-century scholars such as Durkheim and Wundt and more directly as the intellectual offspring of early 20th-century Gestalt psychology.

By the mid-1980s, the growing influence of social psychology beyond the borders of the United States was well on its way in reshaping the discipline, as scholars throughout the world actively exchanged ideas and collaborated on multinational studies. Many of the new ideas about social behavior were generated by scholars from collectivist cultures who were raised within societies that have a very different perspective on the relationship between the individual and the group than that within the societies of traditional social psychologists. Subsequent cross-cultural research found that certain social beliefs and behaviors that were previously considered universal were, in actuality, specific to the socialization practices of individualist cultures. Based on these findings, considerable research attention was devoted to determining which aspects of human behavior are culture specific—due to conditions existing within a particular culture—and which aspects are due to humans' shared evolutionary heritage.

This renewed interest in examining the evolutionary basis for human social behavior not represented only a second look at McDougall's call for an evolutionary-based social psychology but also an attempt to exchange ideas with biologists. Although evolutionary explanations were often presented as direct assaults against sociocultural explanations, a number of social psychologists understood that these two theoretical perspectives were not necessarily incompatible. Instead, they believed that a more complete understanding of social behavior could be achieved by acknowledging that evolutionary forces may have left humans with particular capacities (such as the capacity to behave helpfully) and by recognizing that current social and environmental forces encourage or discourage the actual development and use of those capacities.

Despite the dominance of social cognition in the 1980s, some social psychologists raised concerns about the relative lack of focus on emotions and motives in explaining social thinking. These critics of existing social cognitive theories argued that to think of motives and affect as merely end products in a central processing system was to dehumanize social psychology. In the early 1990s, a number of social psychologists sought to establish a more balanced view by blending the traditional hot and cold perspectives into what some have termed the *warm look*. These revised social-cognitive theories proposed that people employ multiple cognitive strategies based on their current goals, motives, and needs. Theorists typically developed dual-process models, meaning that social thinking and behavior are determined by two different ways of understanding and responding to social stimuli. One mode of information processing—related to the cold perspective legacy—is based on effortful, reflective thinking, in which no action is taken until its potential consequences are properly weighed and evaluated. The alternative mode of processing information—related to the hot perspective legacy—is based on minimal cognitive effort, in which behavior is impulsively and unintentionally activated by emotions, habits, or biological drives, often below the radar of consciousness. Which of the two avenues of information processing people take at any given time is the subject of ongoing research.

This attention to both explicit and implicit cognition has recently prompted social psychologists to explore how neural activity in the brain is associated with various social psychological processes, including self-awareness, self-regulation, attitude formation and change, group interaction, and prejudice. Although the numbers of social psychologists who pursue such research is still relatively small, the knowledge they acquire concerning the biology of social behavior will undoubtedly play a role in reshaping existing theories. Indeed, the U.S. federal government's National Institute of Mental Health, which has an annual budget of $1.3 billion, has recently given priority to research grants that combine social psychology and neuroscience.

Finally, relative to applied work, contemporary social psychologists have continued the legacy of Lewin and SPSSI by applying their knowledge to a wide arena of everyday life, such as law, health, education, politics, sports, and business. This interest in applying the principles and findings of social psychology is a natural outgrowth of the search for understanding. However, in this quest for scientific insight, some social psychologists contend that the discipline has focused too much attention on negative social behavior and the flaws in human nature. There are those in the profession who disagree with this critique, but others reply that focusing on the problems humans have as social beings will result in more long-term benefits than would focusing on human strengths.

If the life of a science is analogous to a person's life, then contemporary social psychology is best thought of as a young adult in the social sciences. Compared to more established sciences, social psychology is "barely dry behind the ears." Yet it is a discipline where new and innovative ideas are unusually welcome, where new theoretical approaches and scientific methods from other scientific disciplines are regularly incorporated into the study of social thinking and behavior, and where members of the discipline regularly question the social significance of their findings. In this ongoing critical self-assessment, most social psychologists are confident that their still-young science will continue revealing important insights into how humans function as social creatures.

Stephen L. Franzoi

See also Social Cognition; Social Facilitation; Sociological Social Psychology; Symbolic Interactionism

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HOME-FIELD ADVANTAGE AND DISADVANTAGE

Definitions

The home-field advantage refers to the tendency for sports performers to win more often when competing at their home facility. Studies of professional, collegiate, and high school sports have consistently found that home performers defeat visiting performers in more than half of total games played. The aggregated winning percentages of home performers vary between sports and across eras, but they typically range from just above 50% to as high as 70%. Home-field advantage effects are common in team sports like baseball, basketball, and football as well as in individual sports such as tennis and wrestling.

Although performing at home is clearly an advantage more often than not, the home-field advantage can be eliminated or reversed in some situations. Some studies suggest that competing at home can actually handicap performers during crucial, high-stakes contests. Such home-field disadvantage effects—when home performers win fewer than 50% of games—have been found in high-pressure contests such as the seventh games of World Series and National Hockey League championships and the final rounds of major golf championships.

Explanations for the Home-Field Advantage

Evidence of the home-field advantage is easily obtained by examining archival records of the outcomes of competitions, but isolating the mechanisms responsible for this phenomenon has proven more challenging to researchers. A number of variables contribute to home-field advantage effects. One factor is the extent to which the sport gives home performers an explicit strategic advantage, such as the baseball tradition of allowing home teams to bat last. In major college football, home-field advantage effects are magnified for powerhouse programs simply because they pay to fill their nonconference schedule with home games against inferior opponents with less funding. However, home-field advantage effects are also found in sports without such obvious built-in competitive advantages for home performers.

Additional explanations for the home-field advantage include factors related to performers' comfort with their physical environment. For example, home performers are more easily able to maintain their routines of practice and rest compared with visiting performers, particularly when the visitors must travel long distances to compete. Moreover, familiarity with the unique physical characteristics of the competition venue (such as the outfield walls at Boston's Fenway Park) could provide a competitive advantage to home performers. To date, however, research shows that the effects of performers' comfort with the physical environment are surprisingly weak predictors of home-field advantage effects.

A potentially powerful contributor to the home-field advantage is the confidence that performing at home inspires. Performers recognize the home-field advantage and therefore expect to win more often at home and lose more often on the road. A large body

of research has linked expectations of success with positive performance outcomes while linking failure expectancies with poor performance outcomes. One factor that has been found to increase the confidence of home performers is the presence of a supportive audience. Most competitors believe their home audience helps them perform better, and this mere belief may promote superior performance.

Audience factors can influence the home-field advantage in several ways. A home audience may motivate performers to invest extra effort to reward the audience for their support. In sports like football, home audiences selectively raise their noise levels to disrupt the on-field communications of the visiting team. The emotional intensity of home audiences also seems to influence decisions made by judges and referees. Several studies have shown that referee decisions tend to favor home competitors, and home-field advantage effects are most evident in sports that rely on subjective scoring by judges.

Explanations for the Home-Field Disadvantage

A notable exception to the home-field advantage has been found for crucial contests that determine championships. The home-field advantage is most apparent in relatively low-stakes contests that comprise the bulk of most sport seasons, but performing at home is often unhelpful in the pressure-packed key moments of the most meaningful games. This home-field disadvantage phenomenon is often obscured by home-field advantage effects and has received comparatively less research attention, but several psychological factors can make home performers more susceptible to choking (i.e., underachieving) under pressure.

Performers prefer to compete at home in part because they expect playing at home will help them win. In the initial stages of a competition, the superior confidence of the home performers can become self-fulfilling, propelling them to easy victories. However, if home performers have not separated themselves from their opponents by the late stages of competitions, they may struggle to remain confident (and the confidence of their opponents should increase). When this occurs, home performers may feel significant performance pressure, and the competitive advantage can shift to the visiting performers.

Performance pressure naturally increases for all competitors in key moments of big games, but home performers have more reason than other performers to feel pressure in these situations. One reason is that home performers know others expect them to defeat opponents of similar ability. Research has shown that people perform poorly when observers expect success, but the performers lack this confidence. The pressure for home performers is especially great when they recognize and care about the disappointment their failure would cause their home audience. Such elevated levels of perceived pressure often causes performers to choke by focusing too much on automatic aspects of performance they normally ignore (trying too hard), or by failing to concentrate due to heightened anxiety.

The relatively high cost of failure for home performers may also lead them to focus more on avoiding failure than striving for victory. Performers who strive to avoid failure usually fare less well than those oriented toward achieving success, so home performers are handicapped to the extent that the high costs of failing at home causes them to play not to lose. The relationship between performing at home and failure avoidance motives is supported by studies linking supportive audiences with an overcautious performance style.

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See also Choking Under Pressure; Social Facilitation

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HOPE

Definition

A typical dictionary definition of *hope* suggests that it reflects a goal-related expectation of success. In psychology, a definition that has gained considerable attention basically expands on this dictionary one. More specifically, hope is said to involve goal-directed thinking in which people perceive that they have the

capacities to produce the routes to desired goals (called pathways thinking), along with the necessary motivations to use those routes (called agency thinking).

History

The most famous story about hope is the tale of Pandora. Zeus was angry with mortals for having stolen fire from the gods, and, accordingly, he developed a plan to extract revenge against humans. To do this, Zeus created a maiden, Pandora, whom he sent to earth with a dowry jar. Pandora was instructed that, no matter what, she was not to open this jar. Zeus evidently was using reverse psychology here, for he knew that Pandora could not resist taking a peak at what was inside. Indeed, upon coming to earth, Pandora opened the lid. Out poured a plague of negative forces, including colic, rheumatism, and gout for the body, along with envy, spite, and revenge for the mind. Pandora was horrified at what she had done, and she quickly tried to replace the lid. At this point, however, she supposedly noticed that hope was stuck under the lid.

Although mythology is vague on whether hope actually escaped, the usual conclusion is that it did. Moreover, hope has been viewed as being just as evil as the forces that did escape. For example, Sophocles believed that hope only prolonged human suffering. Plato called hope a foolish counselor. Francis Bacon said that hope was a good breakfast but a bad supper. Similarly, Benjamin Franklin cautioned people with the observation, "He who lives on hope will die fasting." Therefore, much of history has been quite negative about hope. On this latter point, therefore, it should be noted that the Judeo-Christian viewpoint has been in the minority when making hope one of its virtues (along with faith and charity).

It was not until the 1950s that psychologists and mental health professionals (e.g., psychiatrists, nurses) began using scientific approaches for exploring hope. These early scholars generally agreed with the dictionary definition of hope as involving positive expectancies for reaching desired goals. Moving into the 1970s and 1980s, there was yet more interest in hope by psychologists. Of the various theoretical approaches, a model known as *hope theory* has gained considerable attention. According to hope theory, hope reflects goal-directed thinking in which people believe in their capacities to produce the routes to desired goals (pathways thinking), along with the

mental energies or motivations to use those routes (agency thinking). Furthermore, the consensus was that such hope thinking was learned through childhood experiences rather than being a product of genetic inheritance. Finally, as psychology began to pay more attention to human strengths in the 1990s and beyond, hope has been one of the key concepts.

Evidence

There have been two general approaches taken in hope research. A first approach has involved the development of self-report scales and the subsequent study of how the scores on such hope measures were related to other variables. A second approach has entailed attempts to teach people how to become more hopeful, along with any benefits that may accompany such increases in hopeful thinking. These lines of research will be explained briefly in this section.

The scale that has been used frequently in research is called the Hope Scale. It is an eight-item self-report measure on which adults rate each item according to how true it is of them (going from "definitely false" to "definitely true"). Using the hope theory model to guide its content, this scale has four pathways items (e.g., "I can think of many ways to get out of a jam") and four agency items (e.g., "I energetically pursue my goals"). The scores on these eight items are summed, with higher scores reflecting higher hope. There are two versions of these trait-like hope scales that tap thinking across circumstances or situations, with one being for adults and the other for children. Moreover, there is a situation-specific hope scale that taps adult hope in particular circumstances (e.g., work, relationships, school), and another state hope scale version that measures hope at any given moment in time (i.e., "here and now").

Results from studies that used these various hope scales have shown consistently that higher scores are related to (a) better performances in academics (from grade school to graduate school) and sports; (b) more positive outcomes on psychological indices involving happiness, satisfaction, self-esteem, optimism, and meaning in life; and (c) superior coping with stressors stemming from physical injuries, diseases, pain, and a variety of life impediments. In these previous studies, it should be noted that the magnitudes of the hope correlations with the various other markers did not diminish when measures of natural ability were taken into account through statistical procedures. In other

words, hope still predicted school achievements when intelligence was added to the equation. Likewise, hope still predicted athletic performances when natural athletic talent was added to the equation.

Hope has long been thought to be the underlying common process in all successful psychotherapy approaches. Thus, it should come as no surprise that the second line of research pertains to teaching people how to increase their levels of hopeful thinking. In this regard, there have been successful attempts to enhance hope in the context of one-on-one settings, couples, and groups of people. In regard to groups, researchers have implemented an intervention for depressed older adults. In 10 group sessions, these elderly adults underwent activities based on hope theory (to lessen their depression and raise their physical activities), and the results showed significant improvements for the people in this group when compared to people who underwent a commonly used intervention. In another hope intervention, the outpatients who were visiting a community mental health center were taught the basic principles of hope theory before they entered treatment. Results showed that these outpatients improved in their later treatments, and they did so more than clients who had not been given these pretreatment preparations. In yet another study, a videotaped treatment involving hopeful narratives was given to women who had survived childhood incest. After viewing this tape, these women had higher levels of hope than did the women who viewed a control tape (on the topic of nature). In addition, there have been successful hope educational programs for teaching goal-directed thinking to students of varying ages (grade school to college).

Both the correlation-based research using self-report measures of hope and the causation-based interventions aimed at raising the hope levels have shown that higher hope is beneficial. Likewise, the power of hope in producing robust correlations to various other variables cannot be explained by natural talents (e.g., intelligence or athletic ability). Thus, there appears to be something particular to hopeful, goal-directed thinking that makes it effective in yielding its benefits.

Importance and Implications

In contrast to the negative historical views that hope is a counterproductive force in the lives of human beings, the emerging research in positive psychology shows that hope yields benefits in a variety of life arenas. Not only is hopeful thinking adaptive during normal times, but it also appears to be crucial when people encounter impediments or blockages to their desired goals. Perhaps the best news in regard to hope is that is does not appear to reflect genetic endowment; it is a pattern of thinking that is learned during childhood. Furthermore, research suggests that should adults be low in hope, there are ways to teach them to raise their hopes. Whether it is through educational or psychotherapeutic approaches, therefore, the principles of hopeful thinking can be conveyed so that people can reap its benefits.

C. R. Snyder

See also Coping; Goals; Motivated Cognition

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HORMONES AND BEHAVIOR

Definition

A hormone is something produced in the body that circulates in the bloodstream and then influences the activity of living cells that are far from where it was produced. Because hormones travel to their target tissue, they are sometimes referred to as *signaling molecules.* For example, estrogen is produced by the ovaries, but effects the functioning of cells in the heart, uterus, breast, liver, and brain. Any molecule produced

in the body that travels to another tissue via the bloodstream for its effect is classified as a hormone.

Many hormones affect social behavior, often by directly influencing some aspect of brain function, although there are certainly other routes to influencing behavior. Hormones can only affect tissue that has receptors for them. If there is no receptor for a hormone in the brain, it cannot affect brain function. However, many hormones do have receptors in the brain. In social psychology, some of the most researched hormones include testosterone and estrogen (often called sex hormones), as well as vasopressin and oxytocin. Although it is often said that testosterone is the male hormone and estrogen a female hormone, is should be stated that all people have all of these hormones—it is just the amount that differs.

Hormonal links to human behavior are of interest to a variety of social psychologists but perhaps especially to those who are trying to understand topics like falling in love and sexual motivation, dominance hierarchies, and the reasons that differences exist in the behavior of men and women.

Testing for Hormone and Behavior Connections

Psychologists who are interested in understanding the role that hormones play in shaping human behavior rely on several types of research approaches. These would include animal research where hormone levels are experimentally altered, studies of humans with certain types of disorders that change the levels of hormones, direct measurement of hormone levels via immunoassay, and studies that take advantage of natural variations that occur in the levels of some hormones. With each approach, the psychologist is trying to see if changes in hormone levels relate to changes in behavior in a predictable way. For example, a social psychologist might be interested in the reasons that more females choose to major in psychology (study of human behavior), while more males major in engineering (study of mechanical objects). Although most psychologists would certainly agree that social attitudes play a major role in career choice, the potential role of biological differences could also be important. In fact, girls from a very young age appear to be more people oriented (playing with pretend people, drawing more people) and are shown to be more empathic and interested in feelings on a variety of indicators, while

boys from a young age seem more drawn to nonliving mechanical objects and later show better spatial skills, such as the ability to visualize complex objects from a variety of angles. Because this sex difference is found all over the world, one might wonder if there is some biological basis for this difference. To test this, a psychologist might look at whether levels of hormones relate to differences in people orientation, empathy, or mental rotation skills.

First, one might measure the level of hormones in the bloodstream via immunoassay, or saliva samples could be used. If the psychologist thinks that testosterone might relate to performance on a test of spatial skills, it would be testosterone that would be measured. If persons with high testosterone levels have better spatial skills, the idea would be supported. It is also true that the levels of hormones vary in a predictable way across time; this knowledge can be used to test the effects of hormones without taking direct measures. In women, the levels of estrogen and progesterone change across a month due to the menstrual cycle. A psychologist might wonder if high estrogen levels actually worsen performance on spatial skills tasks. Thus, he or she might give a test of spatial skills at day 12 (when estrogen is high) and at day 1 (when estrogen is low). If the scores at day 12 are lower than would otherwise be expected, the idea would be supported. Testosterone, too, follows a predictable pattern of rises and ebbs, though not a monthly one. The average testosterone level is higher in the fall and lower in the spring, so a psychologist could measure a behavior at two times in the year is a similar fashion.

Animal models are often very useful, as many of the sex differences of interest to a social psychologist can be seen in other species as well. Although a person might suppose that the question of college major could never be investigated via animal models—after all, mice do not go to college—but male rats do show better spatial skills than females. There are tests of spatial skills for rodents that rely on maze-solving ability. If a psychologist wonders if prenatal levels of testosterone are affecting spatial skills, a developing mouse can be injected with extra testosterone if it is a female, or, if male, testosterone effects can be eliminated. If the females with extra testosterone grow up to be unusually good at solving mazes, especially if the males denied testosterone grow up to unusually poor maze solvers, the role of testosterone on maze solving would be supported. Of course, mice are not people, and ideally a psychologist would do an

experiment with people, but the obvious problem is that parents are (of course) reluctant to allow the hormonal environments of their unborn children to be manipulated. However, some children are born with conditions that alter prenatal hormone environments. A condition called congenital adrenal hyperplasia (CAH) causes a lack of an enzyme needed to tell the adrenal glands to stop making the male hormones, so they are exposed to levels that are much too high during prenatal development. The problem can occur in either males or females. Upon birth, the problem is almost always diagnosed and the enzyme supplied via medicine, and the problem is no longer present. Girls with CAH are of great interest to a social psychologist interested in the role of prenatal hormonal environments on behavior. These girls self-identify as girls, and society sees them as girls (i.e., they are getting all the same social messages about what it is to be a girl as any other girl); the difference is in the prenatal hormonal environment. In the example about college majors, a psychologist might try and find out if girls with CAH have better spatial skills or were more likely to play with mechanical objects over dolls as children.

Generally, a psychologist would want to see several different types of research approaches coming together to support a role for a particular hormone on an aspect of human behavior (referred to as converging evidence) before concluding a behavior is influenced by hormone levels. In the previously mentioned examples, all of these types of research have been done, and all support the idea that hormones do have some influence on spatial skills. It should be noted that psychologists who conduct this type of research differentiate between organizational effects of hormones and circulating effects. Organizing effects refer to prenatal exposure and how this might alter the brain and behavior; circulating effects refer to current levels and how current amounts of hormones in the body might affect behavior. It is possible for a hormone to have one type of effect on a behavior but not the other, both effects, or neither.

What Is Known

Estrogen

Estrogen has myriad effects on the brain and body. Those relevant to social psychologists include pathology (depression, borderline personality disorder), verbal memory, motivation for sex, and emotional jealousy. The brain has estrogen receptors, and estrogen has the direct effect of raising the levels of the neurotransmitter serotonin. This is important because serotonin is important to understanding depression, and perhaps schizophrenia and borderline personality disorder as well. Estrogen supplementation has been shown to alter the symptom expression of these disorders, whose courses and prevalence rates are different for males and females. As for cognition, several types of research suggest that estrogen may increase performance on tasks that can be related to verbal skills or verbal memory and may decrease performance on certain tests of spatial skills.

Testosterone

Although it has been widely believed that testosterone promotes aggression, this is only partially true. The best research suggests that testosterone is more related to a desire for social dominance and power, rather than aggression per se (although desire for power may lead to aggression at times). Other research suggests that testosterone increases sex drive. As for cognition, several types of research support that testosterone has some effect on the expression of spatial skills, both organizational and circulating levels. Most research on circulating levels suggests that the low male range is optimal for enhancing spatial skills.

Oxytocin and Vasopressin

Oxytocin acts directly on both the nucleus accumbens and amygdala and increases after sex, promoting a feeling of bonding. Oxytocin has also been found to increase positive feelings about other people. Vasopressin levels and receptors within the brain for this hormone are higher in species in which males and females form monogamous relationships and who provide care for their young. Both of these hormones seem to promote affiliation needs in humans. These hormones increase when a person falls in love. Animal research suggests that these hormones are actually causing affiliative behavior and social bonding since experimentally altering these levels of these hormones leads to major changes in pair bonding and parenting behaviors. Many social psychologists think of these as being attachment hormones, and oxytocin is sometimes called the mothering hormone.

Reciprocal Effects

It is important to realize that hormone–behavior effects are not one-way. This means that hormone levels affect behavior, but behavior also affects hormone levels. The best example of this might be the relationship with testosterone and competitive behavior. Raising testosterone levels seems to make animals more competitive, and with enough of a boost, this translates into an increase in fighting behavior. But, it is also true that being in a competition has the effect of changing testosterone levels. It has been shown that even competition by proxy, such as watching your favorite sport team win or watching a movie character win an important battle, leading to an increase in power will cause a rise in circulating testosterone levels. Thus, when psychologists find that circulating levels of hormones are related to a behavior of interest, they consider that the direction of cause and effect may go both ways, and conclusions about whether the hormone is causing a difference in behavior are tentative without converging evidence in the form of experimental designs.

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See also Erotic Plasticity; Gender Differences; Genetic Influences on Social Behavior; Health Psychology; Research Methods

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HOSTILE ATTRIBUTION BIAS

Definition

The hostile attribution bias (HAB) is the tendency to interpret the behavior of others, across situations, as threatening, aggressive, or both. People who exhibit the HAB think that ambiguous behavior of others is hostile and often directed toward them, while those who do not exhibit the HAB interpret the behavior in a nonhostile, nonthreatening way. Furthermore, people who make the HAB often respond to the other person's behavior in an aggressive manner because they perceive it as a personal threat. When they respond aggressively, this action is often viewed as inappropriate because the other person's original behavior was not intended to be aggressive. For example, imagine that José accidentally bumps his shopping cart into Melissa's cart in a busy grocery store. Then Melissa mistakenly assumes that José aggressively bumped her cart to get ahead of her in the aisle. If Melissa then intentionally hits José's cart, she has reacted in an aggressive manner that was inappropriate to the situation.

An important point is that individuals who show the HAB often misperceive the *intent* of the other individual's behavior as aggressive or harmful to themselves or another person, wrongly believing that the person meant to cause harm in performing the action. This biased judgment of the other's intent represents a disruption in normal cognitive processing of events. Nicki Crick and Kenneth Dodge developed the social information processing model, which describes the steps that are experienced when people cognitively process information in social interactions. Crick and Dodge have also conducted several studies that have identified how aggressive children show different patterns of information processing than nonaggressive children. Once these cognitive patterns are developed, they are considered to be relatively stable through adulthood.

Social Information Processing

According to the social information processing model and other cognitive theories, children process and act on information from the social environment through sequential steps, including (a) absorption of social stimuli (encoding of social cues), (b) assignment of meaning to the stimuli (interpretation), (c) determination of goals, (d) accessing of possible responses, (e) selection of a response, and (f) performance of a behavioral act. Progression through these steps usually occurs rapidly.

Aggressive children have been found to experience disruptions at most of the stages, particularly at the encoding, interpretation, and response generation stages. They tend to focus their attention on threatening social cues (such as potentially angry facial expressions of the person talking to them), interpret that information in a hostile manner, and generate aggressive responses. An important theoretical concept that affects how people encode, interpret, and utilize information is *schemas*.

Aggressive Schemas

Processing social information is cognitively demanding; therefore, humans use schemas—mental frameworks of beliefs about people, events, and objects—to rapidly understand stimuli. Schemas are automatically activated (brought to mind) when the schema is available in memory and information relevant to that schema is encountered. Schemas direct people's attention to particular information and guide their interpretation of it, even to the extent that they may fill in missing pieces by utilizing the schema. Schemas can also act like a filter; people tend to pay attention to information that is consistent with their schemas and ignore inconsistent information.

People who exhibit the HAB appear to have more elaborate and complex aggressive information in their schemas for various events and concepts than do nonaggressive people. For example, in contrast to a nonaggressive person, an aggressive person's schema for bars might include that they are places where people get into fights, which may cause the person to perceive more threats and act aggressively in bars.

Because they have many stored memories of hostile situations, people who exhibit the HAB may also more easily bring to mind and apply hostility-related schemas to social situations. Consistent with the way that schemas function, a person with hostility-related schemas would initially attend to more hostile social cues and fail to pay attention to nonhostile cues. The schema would also be used to interpret ambiguous cues. To illustrate, a person with a hostile schema for bars will enter a bar with this schema easily accessible. Once the schema is activated, that person will tend to notice individuals who act in a potentially hostile way, pay more attention to hostile than nonhostile cues, and interpret ambiguous behavior (such as the poke of an elbow in a crowd) as hostile.

Schemas frequently have self-confirming effects. Crick and Dodge defined *reactive aggression* as occurring when ambiguous social information is misinterpreted as more threatening than it is and the person tends to respond aggressively to it, often to defend him- or herself or to retaliate against perceived provocation. Reactive aggression therefore incorporates the HAB process, as individuals displaying a HAB generate aggressive responses to the other's behavior and respond aggressively. This response, in turn, is perceived by others as aggressive and can result in a hostile reaction. Ultimately, the person with a HAB experiences a confirmation of their original, but distorted, belief, and the hostile schema is strengthened.

Development of Aggressive Schemas

Hostile schemas form through repeated exposure to and experiences with aggressive responses to interpersonal conflict. Children who are aggressive, or who experience hostile situations frequently in their daily lives, are expected to have more well-established and accessible hostility-related schemas. Such children may include those who are exposed to community and/or marital violence, watch violent television, and play violent video games. Research has shown that children who frequently experience violent situations, even who play violent video games, show the HAB. Adults who have aggressive personalities and who experience physical pain have also been found to perceive ambiguously hostile information as more aggressive than did aggressive and nonaggressive individuals who did not experience pain. Therefore, certain violent or uncomfortable situations may induce the HAB, especially in people with aggressive personalities.

Implications

The reduction of exposure to and positive experiences with aggressive resolutions of conflict should reduce the HAB and aggressive responses that result from this biased processing. Therefore, reduction in aggressive children's access to violent media and to witnessing reinforcing or positive outcomes to aggression should reduce the accessibility of hostile event schemas, or at least reduce the likelihood of acting upon them. Interventions that help people to control their anger during conflict and to think of nonaggressive solutions have been shown to be effective in reducing aggressive responses in children who display reactive aggression.

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See also Aggression; Attributions; Frustration–Aggression Hypothesis; Schemas

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HOSTILE MASCULINITY SYNDROME

Definition

Hostile masculinity syndrome refers to a personality profile that includes interrelated attitudes and emotions that may be grouped within two primary components: The first consists of hostile, distrustful, insecure feelings toward people, particularly women, accompanied by misogynous (woman-hating) attitudes, such as beliefs that rape victims secretly desire to be victimized. The second component consists of a desire to control and dominate women that results in deriving sexual arousal and gratification from such domination over women. Men who have such a syndrome typically also have an insecure sense of masculinity and are hypersensitive to rejection from women. They are frequently highly narcissistic as well.

Analysis

Research has shown that not only are there differences among men within a society in the extent to which they fit such a profile, but there are some reliable differences in comparing societies to each other. Cross-cultural research focusing on some of the key components of hostile masculinity, such as men's hostility toward women, has found not only differences among different societies but also that such hostility is highly correlated with women's hostility toward women. Interestingly, however, the degree of women's hostility toward men was found to be highly correlated with women's status in the society. In societies where women's status was more equal to that of men's, there was relatively less hostility toward men than in societies with lower status for women. In contrast, men's hostility toward women was not found to be correlated with women's status in the various societies, and research continues to look at the factors that may be responsible for such cross-cultural variation. The United States was found to be relatively high in both men's hostility toward women and women's hostility toward men. India was found to be very high on both, whereas Scandinavian countries (e.g., Sweden) were found to be among the lowest in both types of hostility.

Males having such a hostile masculinity syndrome of feelings and attitudes are expected to be more motivated to behave in negative ways toward females and to condone such behavior in others. Research has found support for such expectations. This profile has been useful in research predicting which males are more likely to be sexually aggressive toward females, with the findings revealing that men who are relatively high in this syndrome are more likely to sexually coerce females. This is particularly the case if the men also have a generally promiscuous sexual lifestyle whereby they are frequently in relatively short-term sexual relationships, without much personal attachment or intimacy.

Hostile masculinity, or some of its key components, has also been shown to predict other behaviors in addition to direct sexual aggression. For example, an association has been found with men's nonsexual physical and verbal aggression toward their marital partners as well as with sexual harassment of women.

In addition to these findings outside the laboratory, research in laboratory settings has shown some similar predictive ability of this personality profile. For example, after being mildly insulted in a laboratory setting, males who scored higher on hostile masculinity have been found to give more aversive "punishment" to females than those lower on this personality profile and to talk to them in a more domineering and hostile way. Interestingly, the same personality profile does not equally predict similar aggression or hostile speech toward other males, suggesting some specificity in these men's motivation to target women.

Neil Malamuth

See also Aggression; Date Rape; Narcissistic Reactance Theory of Sexual Coercion; Power; Rape

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HOSTILE MEDIA BIAS

Definition

During George W. Bush's first presidency, conservative writers Ann Coulter and Bernard Goldberg published books accusing the U.S. mainstream media of liberal bias. Liberal writer Al Franken replied with a book that denied liberal media bias and claimed that

the same news outlets had right-wing economic and editorial leanings. Contradictory media critiques are also found in international political conflicts from the Middle East to Bosnia. The hostile media bias phenomenon happens when opposed groups of political partisans judge the same nonpartisan news coverage as biased against themselves.

History and Modern Usage

In a typical lab study of hostile media bias, people recruited from opposing groups in an issue (e.g., the Arab–Israeli conflict) watch news coverage of that issue, then make judgments of its bias. Survey research is also used to study beliefs about media bias in general. The general finding is that each group judges the coverage to be biased against its own side and believes that it would turn neutral viewers against the group's own cause.

Many studies in social psychology, however, show that people overestimate how much public opinion supports their own view—this is called the *false consensus effect*. If groups overestimate their own support from the people, why do they underestimate their own support in the media?

It was first thought that group members might actually selectively remember more material that opposed their viewpoint from news coverage. However, studies measuring what people remembered did not support this. People tended to remember content that supported their own side but then judged the presentation as biased against themselves anyway. There is more support for the explanation that because partisans believe that the truth is on their side, they judge an evenhanded report as not showing the truth, therefore biased. (Consider how you might react to a documentary evenhandedly assessing Adolf Hitler's good and bad points.)

Another well-supported explanation, though, traces hostile media perceptions to activist culture: Group members learn claims of hostile media bias and apply them to coverage they see. At the group level, this protects group members from exposure to conflicting viewpoints and leads them to rely on like-minded media outlets for news. This may make them less optimistic about popular support, because beliefs about hostile, influential media tend to undermine the false consensus effect. These explanations of hostile media bias can be applied to any situation where a third party catches flak from conflicting sides, from the United Nations to football referees.

Roger Giner-Sorolla

See also False-Consensus Effect; Self-Reference Effect

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HOT HAND EFFECT

Definition

Many sports fans, commentators, players, and even coaches share a belief that a particular player can for some period of time have the hot hand; that is, be "in the zone," "on a roll," "unstoppable," or "playing their A-game." The hot hand effect refers to the tendency for people to expect streaks in sports performance to continue. For example, people believe that a basketball player's chances of making a shot are higher if the player had just made the previous shots, and gamblers believe in bettors being "on fire" and having lucky winning streaks.

The hot hand effect is typically discussed in two ways. In the basketball-shooting example, the hot hand effect pertains to the belief that a hot player has an increased likelihood of making the next shot he or she takes. Recently, the term *hot hand effect* has been used more generally to refer to when people expect streaks to continue for any sequence of events with just two outcomes (e.g., hits vs. misses in basketball shooting, or wins vs. losses in roulette betting).

It is important to distinguish between two terms: the *hot hand effect* and the *hot hand* (also sometimes labeled *positive recency*). The former refers to people's beliefs about hot hand performances, while

the latter refers to the actual occurrence of hot streaks in sports performances.

Evidence

Although belief in the hot hand in basketball is quite common, analyses of the shooting statistics of professional basketball players playing for the Philadelphia 76ers, New Jersey Nets, New York Knicks, and the Boston Celtics showed that, in fact, basketball players do not get the hot hand. The disparity between people's perceptions of streaks and the existence of actual streaks was confirmed with a controlled experiment in which varsity college basketball players made free throws. Before each shot, both the players and observers predicted the outcome of the attempt. Both players and observers believed that some players were hot while shooting free throws, but only 1 out of the 26 players actually showed positive dependencies between shots and an unusual number of streaks.

Psychologists and statisticians have examined athletic performances from a variety of sports other than basketball to seek evidence for streaky performances. They have analyzed playing records and tested for one or more of the following indicators of the hot hand: positive dependencies, unusually long streaks, or an unusually high number of streaks. In addition to basketball shooting, researchers have failed to document evidence for the hot hand in baseball hitting and scoring, professional golf putting, volleyball scoring, and baseball and basketball game winning.

Altogether, the bulk of research findings indicate that actual hot (and cold) playing streaks are more rare in sports than people believe. However, some evidence for streaky performances was found in bowling, hockey goaltending, billiards, horseshoes, tennis, darts, and amateur golf putting in a laboratory setting. This seems to suggest that nonreactive, turn-based, uniform, individual sports are more likely to yield evidence of hot hand performances than are more reactive team sports events that involve more external and situational factors.

Research on gambling beliefs also supports the hot hand effect. Gamblers' responses to a survey indicated that they believe that three distinct factors contribute to winning: chance, skill, and luck. Belief in the power of skill and luck could account for the findings that gamblers playing roulette (a) had more confidence that they would win a bet after having won the previous bet(s) and (b) also increased their bet amounts. Belief in lucky winning streaks persists even if the game is based purely on chance (e.g., roulette) and despite the fact that the odds of most casino games are not in the gamblers' favor.

Psychological Mechanism

Belief in the hot hand has been explained within the framework of the representativeness heuristic. People believe that very short sequences should be representative of long sequences produced by the same process. For sequences produced by a random process, people expect the prototypical random sequence to be composed of approximately equal proportions of the possible outcomes (50–50), balanced in unrealistically short runs, and not patterned in any obvious manner. Hence, there is a tendency for people to expect an excessive number of alternations and short streaks in judgments of random sequences.

Given this concept of the prototypical random sequence, when people observe a sequence with seemingly few alternations and long streaks (as is often the case with basketball shooting), they will judge the sequence as being unrepresentative of a random process. The idea of a random mechanism is therefore rejected and replaced by an expectation of hot hand patterns.

For example, people's misconception of what a random sequence should look like leads them to perceive a basketball player who has just hit four baskets in a row as hot, when in fact it is not unusual for a truly random sequence to contain a streak of four.

Implications

The hot hand effect has implications for financial decisions and behaviors, such as gambling or investing money. The tendency for people to perceive unusual streaks that do not actually exist can cause them to bet money on outcomes that they mistakenly believe they can predict. For example, research shows that people sometimes overinvest in stocks that are doing well in the short term and not think enough about the long-term behavior of stock prices. Predicting outcomes based on a misperception of streaks and short sequences can be financially costly.

An T. Oskarsson
Joanne Kane

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Hyperbolic Discounting

Definition

Hyperbolic discounting refers to the tendency for people to increasingly choose a smaller-sooner reward over a larger-later reward as the delay occurs sooner rather than later in time. When offered a larger reward in exchange for waiting a set amount of time, people act less impulsively (i.e., choose to wait) as the rewards happen further in the future. Put another way, people avoid waiting more as the wait nears the present time. Hyperbolic discounting has been applied to a wide range of phenomena. These include lapses in willpower, health outcomes, consumption choices over time, and personal finance decisions.

Background and History

The notion of discounting future rewards relative to immediate pleasure has a long history. People generally want rewards sooner rather than later. Thus, options that delay a reward appear less attractive, and people discount them. The neoclassical view of economics assumes that people discount a future reward by a fixed percentage for each unit of time they must wait. If the discount rate is 10% per year, a person should equally like $100 now and $110 a year from now. As well, the same person should also equally like $100 in 1 year and $110 in 2 years. According to this view (called *exponential discounting*), the amount people discount a future reward depends only on the length of the wait and a discount rate that is constant across different wait times.

Although exponential discounting has been used widely in economics, a large body of evidence suggests that it does not explain people's choices. People choose as if they discount future rewards at a greater rate when the delay occurs sooner in time. To illustrate, many people prefer $100 now to $110 in a day, but very few people prefer $100 in 30 days to $110 in 31 days. It appears people would rather wait 1 day for $10 if the wait happens a month from now. However, they prefer the opposite if they must wait right now. More generally, the rate at which people discount future rewards declines as the length of the delay increases. This phenomenon has been termed *hyperbolic discounting* by the psychologist Richard Herrnstein.

There are several reasons why people might rationally choose a smaller reward now over a larger reward later. They may like the sure thing, their preferences could change, or they may have an urgent need such as hunger or paying the rent. Even so, people still seem to show inconsistencies in their choices over time. When choosing between $100 or $110 a day later as in the earlier example, people believe that in a month they will want to wait a day for an extra $10. Yet after a month passes, many of these people will reverse their preferences and now choose the immediate $100 rather than wait a day for an additional $10. In sum, even when facing the same exact choice, people act impulsively in the short term but exhibit greater patience in the long term.

The amount that people discount future rewards has been mathematically represented in several ways. The classical economic view of exponential discounting reduces a future reward by a factor of $1 / (1 + k)^t$ where k is the constant discount rate per time unit and t is the length of the delay. The amount a future reward is discounted depends only on the length of the delay, given a constant discount rate. Alternatively, hyperbolic discounting reduces a future reward by a factor of $1 / (1 + kt)^{\beta/\alpha}$ where α and β are greater than zero. The term *hyperbolic* is used because this formula is the generalized function for a hyperbola. With hyperbolic discounting, the rate of discounting decreases as the delay occurs further in the future. Thus, the amount a future reward is discounted depends on the length of the delay and when the delay occurs. Hyperbolic discounting will generally discount future rewards more than exponential discounting for short delays, yet less than exponential discounting for long delays.

Two simpler versions of hyperbolic discounting have also been proposed and widely used. First, the psychologist Richard Herrnstein has modeled some behaviors quite well by assuming that α and β are equal. In this formulation, future rewards are discounted

by a factor of $1 / (1 + kt)$. Second, the economist David Laibson has accounted for several phenomena using a particularly simple form of "quasi-hyperbolic" discounting. Here, future rewards are discounted by a factor of βk^t for any $t > 0$ where $\beta < 1$. This implies that people discount future rewards by a constant factor to reflect the presence of a delay. As well, they also discount by an exponential factor that grows at a constant rate with the length of the delay. Although not truly hyperbolic, this simpler formulation still captures many of the basic aspects of hyperbolic discounting, such as greater impulsivity in the short term.

Applications of Hyperbolic Discounting

Of particular importance to personal well-being, hyperbolic discounting has been linked to the problems of addiction and self-control. As an example, overweight people may realize that they need to improve their health through more exercise and a better diet. For the future, they vow to forego all short-term temptations in exchange for the greater long-term rewards of improved health. Presumably, they prefer this because they use a small discount rate for all rewards in the distant future. However, after their next meal, they can not resist having chocolate cake for dessert. They focus on the instant pleasure the chocolate cake can provide and heavily discount the future rewards of better health. After eating the cake, they may once again intend to follow a diet in the future. They believe that next time they will want to, and be able to, turn down the cake. Although these people really want to follow the regimen necessary for better health, the immediate reward from short-term deviations drowns out the heavily discounted future benefits of healthier eating. Their preference for healthy eating simply does not hold up in the heat of the moment. Similar explanations have also been offered to help account for drug addictions, procrastination, and other problems of willpower.

Hyperbolic discounting also has important consequences for how people choose experiences over time. Given a fixed pool of resources (e.g., money or time), people might want to choose a sequence of experiences to maximize their overall enjoyment. Unfortunately, hyperbolic discounting makes this difficult. People fail to take advantage of liked options that become particularly pleasurable only when rarely experienced. For example, the psychologist Richard Herrnstein proposes that people choose alternatives over time such that the average pleasure is the same across every alternative (this is called *melioration*). Here, people focus too much on how much pleasure an item provides at the current rate of consumption. They should also consider the potential pleasure that could be obtained by waiting to consume an item. For example, a steak dinner might be especially enjoyable when eaten once a month, yet it becomes nothing special when eaten every other day. In contrast, pizza might remain moderately enjoyable regardless of the rate of consumption. By meliorating between the two options, people fail to maximize their enjoyment. They choose their current favorites (e.g., steak) too often rather than keeping them special for a future occasion.

The economist David Laibson has used hyperbolic discounting to explain why people simultaneously have large credit-card debts at a high interest rate and pre-retirement wealth growing at a lower interest rate. As predicted by hyperbolic discounting, the rewards provided by buying something today often outweigh the discounted displeasure of future payments. This leads to a sizable credit-card debt. However, when thinking about their retirement savings in the far future, people use a much smaller discount rate for delayed rewards. This makes it more attractive to invest in alternatives providing a higher expected return in the long run. Consistent with hyperbolic discounting, people's investment behavior exhibits patience in the long run and impatience in the short run. People choose to build up sizable credit-card debts while also prudently accumulating wealth in homes and retirement programs. The classical economic view of exponential discounting cannot easily account for these personal saving decisions using a single constant discount rate.

Individual and Contextual Differences

The extent to which people exhibit hyperbolic discounting of future rewards depends on a number of factors. Some people (and species) show more hyperbolic discounting than others across most choice situations. People also tend to show less hyperbolic discounting with age, more favorable social comparisons, and more hedonic rather than utilitarian experiences. Likewise,

people find waiting for a larger reward more difficult when an immediate reward is physically close to them, openly visible, or partially sensed (e.g., aroma, noise). Across these diverse conditions, the phenomenon of hyperbolic discounting does not disappear; rather, it just influences behavior more or less.

Joseph P. Redden

See also Delay of Gratification; Preference Reversals

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I

IDENTITY CRISIS

Definition

Erik H. Erikson coined the term *identity crisis* to describe the uncertainty, and even anxiety, that adolescents may feel as they recognize that they are no longer children and become puzzled and confused about their present and future roles in life.

Context and Importance

You may recall a time during the teenage years when you were confused about who you were, what you should be, and what the future might hold in store for you. Forming an adult identity involves grappling with many important questions: What career path best suits me? What religious, moral, or political values can I call my own? Who am I as male or female and as a sexual being? How important are marriage and raising children to me? Just where do I fit in to society? These identity issues, often raised at a time when teenagers are also trying to cope with their rapidly changing body images and more demanding social and academic lives, can add significantly to one's confusion about who he or she is (or can become).

The Process of Forging Identities

Researchers have developed elaborate interviews, questioning adolescents and young adults to determine if interviewees have experienced a crisis (grappled with identity issues) and whether or not interviewees have made commitments (i.e., resolved any issues raised) with respect to forging occupational, interpersonal, political, and religious identities.

Based on the answers provided, the interviewee is classified into one of four identity statuses for each identity domain:

Identity diffusion: Persons classified as "diffuse" have neither thought much about nor resolved identity questions and have failed to chart future life directions. *Example:* "I haven't really thought much about religion and I'm not sure what to believe."

Foreclosure: Persons classified as "foreclosed" have committed to an identity, or identities, without experiencing the crisis of deciding if these commitments really suit them well. *Example:* "My parents are Lutherans and so I'm a Lutheran; it's just how it is."

Moratorium: Persons in this status are currently experiencing an identity crisis and are asking questions about various life choices and seeking answers. *Example:* "I'm exploring my religious teachings, hoping to determine if I can live with them. I like some of the answers provided by my Baptist upbringing, but I'm skeptical about so much. I've been looking into Unitarianism to see if it might help me overcome my doubts."

Identity achievement: Identity-achieved individuals have raised and resolved identity issues by making well-thought-out personal commitments to various life domains. *Example:* "After much soul-searching about my religion, and other religions too, I finally know what I believe and what I don't and how my beliefs will affect the way I'll live my life."

Although Erikson assumed that the painful aspects of identity crises occur early in adolescence and are often resolved between the ages of 15 and 18, his age norms are overly optimistic. Research with 12- to 24-year-olds consistently reveals that the vast majority of 12- to 18-year-olds are identity diffuse or foreclosed, and not until age 21 and older had the majority of participants reached the moratorium status (crisis) or achieved stable identities in any life domain. There is one intriguing sex difference. Although today's college women are just as concerned as men are about achieving an occupational identity, they attach greater importance than men do to aspects of identity that focus on sexuality, personal relationships, and how to balance career and family goals.

The process of identity achievement is often quite uneven. One study assessed the identity statuses of participants in four domains: occupational choice, gender-role attitudes, religious beliefs, and political ideologies. Only 5% of participants were in the same identity status in all areas, with 95% being in two or even three statuses across the four domains. So adolescents and young adults may have achieved a strong sense of identity in one area but still be searching in others.

How Painful Are Identity Crises?

It may be unfortunate that Erikson used the term *crisis* to describe a young person's search for identity, because adolescents in the moratorium status do not appear all that stressed out. In fact, these active identity seekers typically feel much better about themselves and their futures than do same-age peers still stuck in the diffusion or foreclosure statuses. So the active search for identity is often more uplifting than deflating.

What is most painful or crisis-like about identity seeking is a long-term failure to establish one. Older adolescents and young adults still stuck in the diffusion status are often apathetic and sometimes even suicidal; alternatively, they may adopt a negative identity, drifting into antisocial or delinquent behaviors. These are the individuals who may experience a true identity crisis after all.

Parenting and Identity Crisis

Parenting clearly affects how adolescents experience and manage the identity crisis. Individuals who feel alienated from parents often remain diffuse and experience serious adjustment problems, whereas those who feel close to controlling parents often simply foreclose on identities that parents suggest or dictate to them and that may prove unsatisfying. Adolescents who forge healthy identities that suit them well typically have warm and accepting parents who encourage identity explorations and who permit their teens to take their own stands on issues and to become individuals in their own right.

David R. Shaffer

See also Identity Status; Self; Self-Concept

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IDENTITY STATUS

A widely read book by Erik H. Erikson launched a set of ideas that stimulated the formulation of the concept of identity status. Writing from a psychoanalytic perspective, Erikson construed that individuals at each stage of life (e.g., infancy, childhood, adolescence, adulthood) have a crisis to resolve, with all positive resolutions enhancing the foundation of ego identity that is created during adolescence. Each society is thought to provide early enhancements of a child's imitation and identification with parents. This process stimulates, in the early years of childhood, an identity that is based on parental ideals, values, or beliefs. But during adolescence, society offers a psychosocial moratorium for the youth to experiment with ideas about roles, values, goals, and possible commitments that could expand identity beyond parental ideals to a more self-constructed identity. During the psychosocial moratorium (i.e., a time to be free to explore personal and career goals and options), adolescents struggle with an identity crisis and formulate an identity or experience an unsettling state of role confusion and self-consciousness. By resolving the identity crisis, an extreme occupation with self-consciousness is

diminished, and a youth identifies a set of goals, values, and commitments that become the foundation for an adult identity. Identity resolution brings with it several strengths in personality, particularly, when the identity is well received by adult society and is encouraged and recognized by adults as a useful direction to life. This recognition can occur through ceremonies, rituals, or rites of passage (e.g., graduation, scout badges, or communion).

James Marcia used Erikson's theory to devise a concept and research tool to assess identity. The identity-status paradigm utilizes Erikson's concepts of crisis and identity commitments. Crisis means a turning point, a time for action, a period of exploration and discovery. Identity commitments refer to the establishment of goals, accepted values, and faith of the use and importance of ideologies (such as capitalism, denominational faith, or political party affiliation). When crisis or exploration is crossed with commitments, four identity statuses are defined. These identity statuses are labeled *diffusion, foreclosure, moratorium,* and *achievement.* Diffusion status represents a person who has little or no sense of crisis or exploration and no firm set of commitments. Foreclosure represents an individual who has accepted commitments but not based on exploration or searching. The foreclosed person has commitments based on parental or adult values without the experience of exploration. This form of identity is mostly based in imitation, identification with parental ideals, and conformity without critical inspection. The moratorium status involves a person who is in a deep state of exploration and discovery but is not ready to make lifelong commitments. Identity achievement is the pinnacle of identity development. Individuals who report a state of exploration and firm commitments are identity achieved.

Identity statuses are categories of four different states in identity formation. Therefore, identity statuses are a set of typologies. Four identity statuses are readily found in any population of adolescents or emerging adults. Furthermore, over time and with increasing maturity, a youth can evolve into another typology. Most longitudinal evidence suggests that diffused youth can become foreclosed or move into a moratorium status. And most moratorium-status youth become identity achieved. However, youth can also reverse their growth from moratorium back to diffusion or maybe foreclosure. Also, identity-achieved individuals can return to moratorium but usually mature back into a new form of identity-achievement status. There is always a possibility of progression to more exploration, commitment, or both, but regression is possible where a youth reverses direction to a simpler or less complex form of identity.

Each identity status is associated with very different kinds of personal and social characteristics. Diffused youth tend to be isolated; conform to peer pressure; go along with fads; manifest depression, self-consciousness, and lower self-esteem; and are likely to engage in delinquent or criminal acts. The absence of values and goals leave the diffused youth vulnerable to undesirable social influences. Foreclosed youth conform to current social norms or rules, are rigid, and have shallow or pseudo intimacy with their friends and romantic partners. Moratorium youths are inclined to be anxious, have positive self-concepts, feel incomplete and in need of direction, but have good emotional relationships with others. Identity-achieved youth are goal directed, make judgments about life from a firm set of values, and manifest many positive personality characteristics indicative of positive mental health. They also have intimate and mature social relationships with peers and opposite-sex partners.

Identity achievement is associated with several positive ego mechanisms or cognitive operations. Identity-achieved youth have greater understanding of the self, have goals and directions in life, feel they are consistent and coherent as a person, see themselves as having free will to choose who they are or can become, and see that their futures have many positive possibilities. The other identity statuses have very little of these ego-identity strengths. Identity achievement also brings a feeling of fidelity, that is, a feeling that whatever they commit to will be received positively by others.

There are several social conditions that enhance identity achievement with its states of exploration and commitment. Parenting that is warm, democratic, and allows for increasing emotional and physical autonomy as a youth matures is connected with identity achievement. Schools that provide supportive and involved faculty are facilitative of identity achievement. Positive peer relationships, whereby the adolescent feels he or she matters to friends, are associated with identity achievement.

Each of the forms of identity can also be unproductive in certain social contexts. Diffused status makes it very difficult for adolescents and emerging adults to profit from educational environments. Foreclosed youth become anxious and depressed when their personal values are threatened or when they lose close relationships that force them to move on. Moratorium youth are anxious and unhappy in environments

that demand conformity and little or no room for exploration. Identity-achieved youth become uncertain and self-conscious when they find their firm goals and values are not proving to help them achieve success.

Gerald Robert Adams

See also Identity Crisis; Influence; Moral Development; Self

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IDEOLOGY

Definition

Ideology refers to a system of interrelated beliefs and values belonging to an individual or group, usually but not exclusively in the political realm. It is typically measured on a left or right (or liberal or conservative) dimension. Research in psychology focuses largely on the extent to which people's attitudes are organized according to ideological schemata and whether they are linked to personality and other individual differences.

History of the Concept

The concept of ideology originates in the late 18th century and was used first to refer to the *science of ideas,* a discipline that is now called the *sociology of knowledge.* The term was later adopted by Karl Marx and Friedrich Engels and was used in two different senses, both of which are still common: (1) a neutral sense, in which ideology refers to any abstract or symbolic meaning system; and (2) a pejorative (insulting) sense, in which ideology denotes a web of ideas that are systematically distorted, contrary to fact, and subject to false consciousness. Typically, an ideology stands in relation to a social system, either as an affirmation of the status quo or in opposition to it.

Although specific ideologies can pertain to cultural, economic, political, religious, and even scientific matters, the most common use of the term is in the political realm. Examples of political ideologies include communism, socialism, liberalism, conservatism, and fascism. Most political ideologies can be located parsimoniously on a single left–right dimension that captures attitudes toward social change versus traditionalism and egalitarianism versus hierarchy.

Research in Social Psychology

Research at the intersection of psychology and other social sciences has adopted the value-neutral definition of ideology but reframed it as an attribute of individuals rather than collectivities. Thus, ideology is treated as a complex belief system that is highly integrated (i.e., logically or psychologically consistent) within the mind of an individual. Two research questions have guided much empirical work over the past 50 years. First, does ideology exist? And second, are there psychological differences that accompany ideological differences?

P. E. Converse's 1964 analysis of public opinion data concluded that the general public is not very "ideological" in the sense of being constrained by scholarly definitions of terms such as liberalism and conservatism. Nevertheless, most people are able to reliably locate themselves on ideological dimensions, and doing so seems to have at least symbolic meaning for them. It is also clear that ideological belief systems are internally coherent in people who are highly educated, politically involved, or both, as noted in 1981 by Charles Judd, Jon Krosnick, and Michael Milburn.

In one of the earliest attempts to link personality and ideology, Theodor Adorno, Else Frenkel-Brunswik, Daniel Levinson, and R. Nevitt Sanford found in 1950 that a rigid, closed-minded, and "authoritarian" personality style characterized people who are drawn to right-wing ideologies. Although this work was harshly criticized, many of its claims have been vindicated. The weight of evidence indicates that right-wing conservatives are, on average, lower in open-mindedness and cognitive complexity and higher in mental rigidity and personal needs for order, structure, and closure, in

comparison with moderates and liberals, as noted in 2003 by John T. Jost, Jack Glaser, Arie W. Kruglanski, and Frank J. Sulloway.

John T. Jost

See also Attitudes; Authoritarian Personality; Beliefs; Political Psychology

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ILLUSION OF CONTROL

Definition

The illusion of control (also known as illusory control) refers to the tendency for people to exaggerate their ability to produce a desired outcome. Even when it comes to controlling random events, people believe they have control.

Factors That Influence Illusory Control

Traditionally, people assumed accurate self-knowledge was crucial for survival and health. In this formulation, people possessed the ability to correctly judge control over their environments; accurate knowledge of when one's actions produced particular outcomes—and when they did not—was thought to be critical for functioning effectively in the world. In a broad sense, this is true. For example, mentally healthy people know they cannot control whether the sun rises and sets each day. At the same time, though, a feeling of being in control is vital for self-esteem and mental health. The

problem is people generally overestimate the amount of control they have over events.

People do not always overestimate their control, however; contextual factors and characteristics of the people involved are both very important. At least six factors contribute to an illusion of control. First, people must themselves produce the action; others cannot act for them. Second, the situation is familiar, rather than unfamiliar. Third, people know in advance their desired outcome. Fourth, people believe they exert more control in successful situations than in failure situations: No one wants to assume unnecessary responsibility when things go wrong. Fifth, people in depressed moods tend to believe they have less control over events than people in nondepressed moods. (Interestingly, depressed individuals are usually less susceptible to the illusion of control than nondepressed individuals; their apparent underestimation of control actually turns out to be somewhat more realistic.) Sixth, a personality variable that researchers call the *need for control* seems to influence illusions of control, though this topic requires further study.

Evidence

A large body of evidence supports the illusion of control. Gambling, for example, would likely lose much of its appeal without people's slightly altered perceptions of control. When gambling, people believe they can control chance events. For example, studies have demonstrated people think they have more control over the outcome of a dice game if they throw the dice themselves than if someone else throws the dice for them, and they are less apt to sell a lottery ticket they chose than a ticket chosen by someone else (presumably because people errantly infer the odds of winning increase because *they* threw the dice or bought the ticket). In another study, participants cut cards against a competitor (the person drawing the highest card was the winner). In one condition in the experiment, the competitor dressed poorly and appeared nervous; in the other condition, the competitor dressed elegantly and looked poised. Even though the appearance of the competitor has no objective influence on the outcome of the game, participants wagered more money when playing against the nervous competitor than when playing against the composed competitor.

Research also seems to confirm that depressed individuals are less susceptible to illusions of control

than nondepressed individuals. In an early experiment on this topic, researchers told participants that pressing a button might (or might not) turn on a green light (in reality, whether the light turned on was pre-arranged; button pressing actually had no effect). In one condition, participants gained $0.25 for every time the light appeared. In another condition, they lost $0.25 each time they "failed" to make the light appear. Participants then rated the extent to which their actions (pressing the button) caused the result (the light turning on). Results of the study demonstrated nondepressed individuals thought they were more responsible for the light turning on than depressed individuals, especially when their actions brought about desired outcomes (i.e., gaining $0.25 as opposed to losing $0.25).

Why People Overestimate Their Personal Control

Less research has examined the origins of the illusion of control, but some explanations have been offered. Originally, researchers thought people simply confused chance and skill, because situations conducive to the illusion of control are often similar to situations in which people demonstrate skill (i.e., a situation in which people are familiar with the outcomes, personally active, and successful). More recently, researchers have proposed the illusion of control might instead be a heuristic (a rule of thumb people use to make quick judgments without much thinking). The illusion of control, then, might result from the continued pairing of one's own behavior in a situation with a desired outcome. Like most heuristics, most of the time this pairing is correct, but sometimes it is incorrect, as in situations in which the outcome occurs randomly.

Implications: Is Illusory Control Healthy?

Feeling out of control is definitely not healthy. People who feel out of control develop a state of learned helplessness (i.e., they quit trying and give up). But is feeling in control healthy, even if it is only an illusion? On the positive side, perceiving unwarranted control leads people to experience positive emotions and try novel, challenging tasks. On the negative side, perceiving unwarranted control leads people to take foolish, unnecessary risks, especially in a gambling context. Overall, illusory control is a trade-off. There probably

exists an optimal level of illusory control, which depends on situational and personal factors.

Scott J. Moeller
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See also Apparent Mental Causation; Illusory Correlation; Positive Illusions

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ILLUSION OF TRANSPARENCY

There are times when people wish to conceal their thoughts, feelings, and emotions from others. Anxiety over approaching a potential romantic partner, feelings of disgust over a disagreeable entrée one is served at a dinner party, nervousness over delivering a public speech, or uneasiness stemming from telling a lie—all are internal states that people may wish, for a variety of reasons, to keep private.

How well can people conceal their internal states, and how well do they believe they can do so? Research suggests that people are often better at keeping their internal states hidden than they believe—that people tend to overestimate the extent to which their thoughts, feelings, and emotions leak out and are apparent to others. This tendency is known as the illusion of transparency because people seem to be under the illusion that others can "see right through them" more than is actually the case. The illusion of transparency is similar to the predicament depicted in Edgar Allan Poe's classic tale, *The Tell-Tale Heart.* In that story, Poe's character falsely believes that some police officers can sense his guilt and anxiety over a crime he has committed, a fear that ultimately gets the best of him and causes him to give himself up unnecessarily.

Researchers have examined the illusion of transparency in a wide variety of different studies. In one

experiment, for example, research participants were placed into a situation that was a mild version of the one from Poe's story; that is, they were asked to tell a number of true and false statements to an audience and then to predict the success with which the audience could spot their lies. Just like in *The Tell-Tale Heart*, participants in that study believed that they had leaked more cues to their deception than they actually had, causing them to overestimate the degree to which the audience could detect their falsehoods. Although observers can sometimes tell when people are lying, most people are better liars than they realize!

In another experiment, participants were asked to keep a straight face as an observer watched them sip a number of different drinks, one of which had an extremely disagreeable taste. When participants tasted the disagreeable drink, they felt as though their disgust was "written all over their face," despite their best efforts to conceal it, and that observers would therefore be able to tell which drink had been the disagreeable one based solely on their reactions. And yet, just like in the lie-detection study, observers who studied the tasters' facial expressions were hardly able to tell which drink was which, and tasters overestimated the degree to which their disgust was perceptible by a considerable margin.

Other experiments have demonstrated the illusion of transparency in a number of other domains. In one study, individuals who took part in a negotiation thought that their privately held preferences—that is, which issues they valued highly and which ones were less important to them—were more apparent to their negotiation counterpart than was actually the case. In another study, research participants who gave extemporaneous speeches in front of a video camera believed that their nervousness was more noticeable than it actually was. In yet another study, participants who committed a mock-crime (e.g., pretending to steal some money) overestimated the extent to which an interrogator could detect their guilt. Although all of these various studies differ from one another in many ways, the basic finding is the same across all of them: People feel as though their internal sensations leak out of them more than they actually do. People are simply not as transparent as they think.

Why do people succumb to the illusion of transparency? The phenomenon appears to stem from what is known as an *anchoring effect*. When a person attempts to determine how his or her internal state appears (or, more accurately, does not appear) in the eyes of others, the person is likely to have difficulty getting beyond his or her own, private, phenomenological experience. In effect, individuals "anchor" their judgments on their own experience of their internal states, which can be quite powerful, and adjust insufficiently when they attempt to determine how things appear to others. It can simply be difficult to realize that the intensity with which one feels an internal state may not be matched by an outward expression that is equally as intense. As a result, people exaggerate the extent to which their internal states leak out and overestimate the extent to which others can detect their private feelings.

The illusion of transparency is similar to a number of other egocentric biases in human judgment. In particular, it resembles both the spotlight effect, people's tendency to overestimate the extent to which others notice their appearance and behavior, and the curse of knowledge, people's difficulty setting aside their own private stores of knowledge when they imagine how the world appears to others. In each case, people err in assuming that others are necessarily aware of or attentive to the same thing that they themselves are. Both of these phenomena may thus represent instances of a more general difficulty people have distinguishing between internal stimuli (e.g., how nervous one feels) and external perceptions (e.g., how nervous one appears)—a difficulty that can impair one's ability to take others' perspectives and see things (including oneself) as they do.

Ken Savitsky

See also Anchoring and Adjustment Heuristic; Deception (Lying); Self-Presentation; Spotlight Effect

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ILLUSORY CORRELATION

An illusory correlation occurs when a person perceives a relationship between two variables that are not in fact correlated. In the first study to demonstrate this phenomenon, participants were presented with pairs of words from two stimulus lists. Each word from the first list was paired an equal number of times with each word from the second list. Later, when participants were asked to estimate the number of times words from each of the two lists had been paired together, they consistently overestimated the number of pairings that had occurred between (a) pairs of words that differed visually from the others (i.e., unusually long words) and (b) pairs of words that shared some semantic association (e.g., *lion* and *tiger*). Thus, although all pairs occurred equally often, people gave higher frequency estimates for certain types of word pairs.

The importance of this bias for social psychology concerns its role in stereotyping. Historically, stereotypes were believed to result from defective personality types or were based on overgeneralization of some kernel of truth that existed in the world. Illusory correlation studies provided another basis of stereotyping by suggesting that people might form a stereotype about a group simply as a by-product of the way their minds normally process information about the world.

In a study to test this hypothesis, researchers presented participants with a series of statements about members of two groups, Group A and Group B. The statements described members of the groups performing desirable (e.g., "John, a member of Group A, visited a sick friend in the hospital") or undesirable (e.g., "John, a member of Group A, always talks about himself and his problems") behaviors. Each participant read 18 desirable statements and 8 undesirable statements about members of Group A and 9 desirable statements and 4 undesirable statements about members of Group B. The total number of statements about Group A was double that of Group B (i.e., 26 statements vs. 13 statements), but the ratio of desirable to undesirable statements was identical for both groups (i.e., 18 desirable and 8 undesirable vs. 9 desirable and 4 undesirable).

Because membership in Group B and the undesirable statements were the two less frequent occurrences (like the pairs of longer words in the original research), they were more noticeable. Later, participants overestimated the number of times they had read about a member of Group B doing something

undesirable. Moreover, participants also rated Group B less favorably than they did Group A. Thus, people perceived a relationship that didn't exist in what they read.

In another experiment, desirable behaviors were used as the novel social occurrence. Participants again read statements about Group A and Group B. However, this time both groups performed more undesirable than desirable behaviors (i.e., Group A: 16 undesirable and 8 desirable; Group B: 8 undesirable and 4 desirable). Again, the ratio of desirable to undesirable statements was the same for both groups. When asked to estimate how many undesirable versus desirable behaviors members of both groups had performed, participants consistently overestimated the frequency of members of the smaller group (i.e., Group B) performing the less frequent behavior (i.e., desirable behavior). Consequently, in this study, Group B was rated more favorably than Group A.

Although evaluatively equivalent information was provided about both groups, people perceived the groups differently because of the effect of distinctive information. This is known as a *distinctiveness-based illusory correlation* because a relationship is believed to exist between two variables as the result of the special attention given to distinctive (i.e., infrequent) information.

Expectancy-based illusory correlations are misperceptions of relationships due to people's preexisting expectations. They provide an explanation for how stereotypes are perpetuated based on an individual's preexisting belief about a group. They are often studied using similar techniques to those found in distinctiveness-based illusory correlation research.

In one experiment, participants read sentences describing people with different occupations. Each of the sentences described a person with a trait word that was stereotypic of the occupation (e.g., a helpful doctor, a busy waitress) or neutral (e.g., a humorous doctor, a humorous waitress). All of the adjectives were paired with all of the occupations an equal number of times. Yet when participants were asked to estimate the number of times each pairing occurred, they consistently overestimated the number of times that the stereotypic-traits had been paired with their corresponding occupations. The effect is known as an expectancy-based illusory correlation because people's stereotypic expectancies about certain occupations lead them to perceive a relationship where none actually exists.

Alternative theories have been provided to explain why illusory correlations occur. One alternative

suggests that research participants are motivated to make sense out of information they receive during a study. Because participants receive information about individuals from two different groups, the participants may assume that some difference must exist between the groups. The participants' attempts to distinguish between the two groups produce different evaluations. Another theory proposes that illusory correlations are due to information loss. Participants are not able to remember all of the information presented about the groups; however, because they learn more information about the larger group, they remember more information about this group when asked to make an evaluation about it later. Because they remember more information about the larger group and the majority of the information they remember is positive, participants evaluate the larger groups more favorably. Similarly, another explanation suggests that illusory correlations occur not because pairings of infrequent occurrences are more distinctive but rather because information about the most common pairings (i.e., larger group with the more frequent behaviors) is so easy to recall.

The findings from both distinctiveness-based and expectancy-based illusory correlation studies are important because they demonstrate how a perceptual bias can result from normally functioning cognitive mechanisms. When this research was first reported, it challenged the then-conventional beliefs that stereotypes were the result of individual personality syndromes or that they were derived from an underlying reality. Distinctiveness-based illusory correlation research demonstrates how stereotypes are constructed by the everyday cognitive mechanisms that are constantly operating within the human mind. Similarly, research on expectancy-based illusory correlations demonstrates how stereotypic beliefs are perpetuated through the biased processing of information when it is guided by a perceiver's prior beliefs.

David L. Hamilton
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See also Availability Heuristic; Self-Fulfilling Prophecy; Stereotypes and Stereotyping

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IMPLEMENTATION INTENTIONS

A goal intention specifies a desired future state in the form of "I intend to perform/achieve Z!" (e.g., to exercise frequently/to be thin). However, merely setting a goal, or wanting very much to achieve it, is not sufficient to actually attain it. The correlation between goal intentions and actual behavior is quite low; the strength of one's goal intention typically explains only 20% to 30% of the variance in goal achievement. One strategy designed to improve goal attainment is to additionally form an implementation intention. An implementation intention is a simple plan in the form of "If X, then I will Y!" that specifies an anticipated goal-relevant situation, X, and a goal-directed response, Y, that will help achieve the goal. For example, an implementation intention formed to support the goal intention "to exercise frequently" would follow the form of "If it is sunny outside when I get up in the morning, then I will walk to work rather than take the bus." In other words, saying "I want to exercise more" doesn't accomplish very much. But planning, "If it's a sunny morning, then I'll walk to work," can increase one's chances of actually reaching that goal of exercising more.

How Do Implementation Intentions Work?

An implementation intention is formed by a conscious act of will. Its effects, however, come about by automatic, effortless action control that is based on the following psychological mechanisms. First, specifying an anticipated critical situation in the if-component of the implementation intention (i.e., the sunny morning) serves to heighten the activation of its mental representation (i.e., sunny mornings are more noticeable to you). As a consequence, the critical situation is more easily recognized, more readily attended to, and more effectively recalled. Second, implementation intentions

facilitate goal pursuit by making the planned response (specified in the then-component) automatic in response to that critical situation. Once a link is formed between the anticipated critical situation and the goal-directed response in the form of an if-then statement, the individual encountering the situation is able to enact the response immediately, efficiently, and without a second act of conscious will. In other words, when our aspiring athlete sees the sun when she wakes up, she'll think "I'll walk to work"—right away, without effort, and without having to decide again what she should do on sunny mornings to achieve her goal of exercising more. This automaticity has been supported in several studies demonstrating immediacy (i.e., quicker responding), efficiency (i.e., requiring fewer cognitive resources), and the redundancy of consciousness (i.e., initiation occurred even without conscious awareness of the presence of the critical situation). By creating strong mental links between an anticipated situation and a planned response, implementation intentions allow people to work toward their goals automatically, like a habit formed through the pairing of situations and responses repeatedly in daily life. Implementation intentions, for this reason, have been said to create instant habits or strategic automaticity.

What Kinds of Problems Can Implementation Intentions Solve?

Implementation intentions have been used to combat four potential problems for goal pursuit: failing to get started, getting derailed, becoming rigid, and overextending oneself.

First, once a goal has been set, people often fail to initiate goal-directed responses when given the opportunity. There are a number of reasons for this: Individuals may fail to notice that an opportunity to get started on their goal pursuit has arrived, may be unsure of how they should act when the moment presents itself, or may simply forget about their goal when busy with other things. As described earlier, implementation intentions make the critical situation easier to notice and the response easier to perform. It is not surprising then that implementation intentions reduce this problem of getting started on one's goals even when busy with other things. In one study, implementation intentions helped individuals perform the necessary behavior when their goal intention (i.e., writing about their Christmas Eve) had to be performed at a busy time (i.e., during Christmas Day). Or, in another study, individuals who formed implementation intentions about when

and where to exercise were more likely to exercise at the place and time specified and therefore more likely to achieve their overall goal to exercise more. Implementation intentions have helped people achieve other health goals, such as regular breast self-examination, cervical cancer screenings, mammography, medication compliance, and healthy eating. Moreover, implementation intentions were found to facilitate the attainment of goals that are easy to forget (e.g., regular intake of vitamin pills).

Second, individuals may fail to achieve their goals because they get derailed from a goal-directed course of action. Because many goal pursuits entail continuous striving and repeated behavioral performances, one must shield goal pursuit from distractions. These distractions can come in the form of temptations, moods that can unknowingly affect one's ability to succeed, or habits that compete with one's chosen course of action. For example, implementation intentions were found to block the distracting effects of temptations in the form of entertaining advertisements (during a math test) by inhibiting attention to the distraction. Implementation intentions were also found to effectively counteract the adverse effects of moods for goal pursuit. Implementation intentions can also protect goal pursuit from unwanted habits (e.g., ordering unhealthy food in a restaurant) in favor of a newly set change goal (e.g., eating healthy food). Research has found that habitual eating behaviors and implementation intentions each have an independent effect on subsequent healthy eating. That is, no matter whether the old unhealthy eating habits were weak or strong, implementation intentions improved the individual's diet. Prejudicial feelings and stereotypical beliefs are another habitual response that can be managed with implementation intentions; implementation intentions helped participants suppress the automatic activation of prejudicial feelings and stereotypical beliefs when mere fairness goals could not.

Third, individuals may fail to achieve their goals because they become rigid in their goal pursuit. They may either need to disengage from their goals because of new information that changes the value of the goal, or they may need to switch their means of approaching that goal because it has become ineffective. Research has shown that there are a number of ways that implementation intentions combat rigidity in goal pursuit:

1. Goal pursuit by implementation intentions respects the quality of the superordinate goal, including its

level of situational activation (i.e., if the goal is relevant in a given situation), the degree to which the goal is still held, and the strength of the goal.

2. Specifying a good opportunity to act on one's implementation intention does not make a person oblivious to alternative better opportunities.

3. Forming implementation intentions does not make a person unresponsive to the effectiveness or ineffectiveness of his or her if-then plans (i.e., if these plans turn out to be counterproductive, they are discarded, and the individual is able to operate on the goal intention alone).

4. Implementation intentions can be used to disrupt the escalation of commitment (i.e., when one course of action isn't working, but the individual keeps increasing his or her effort rather than abandoning his or her pursuit).

A final obstacle to goal pursuit is overextending the self. Individuals who expend effort on a given goal pursuit experience a subsequent reduction in the ability to self-regulate; this is called *ego depletion*. Ego depletion results from having drained one's regulatory resources by exercising self-control in a demanding first task; the ego-depleted individual then shows lowered performance in a subsequent task because these self-regulatory resources are now lacking. Because implementation intentions make self-regulation more automatic, they can be used to prevent the emergence of ego depletion (on the first task) as well as to enhance performance (on the second task) once ego depletion has occurred.

Research on implementation intentions has demonstrated that making if-then plans is a very effective self-regulation strategy of goal striving. The positive effects of this strategy are based on intentionally switching action control from conscious guidance by a goal intention to direct control by preplanned critical situational cues.

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See also Ego Depletion; Goals

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IMPLICIT ASSOCIATION TEST

Definition

Psychologists have long suspected the existence of thoughts and feelings that are not accessible by simply asking a person to report them. It may be that people are unwilling to report what they think and feel. Or, even more likely, people may not be aware of everything that they think and feel. Beginning in the 1980s, efficient alternatives to self-report measures were invented to study implicit or unconscious forms of thoughts and feelings. One such measure is the Implicit Association Test (IAT).

The IAT requires respondents to rapidly sort items from four different categories into groups. For example, imagine sorting a deck of playing cards—with red hearts, red diamonds, black clubs, and black spades—two times. For the first time, all the hearts and diamonds are sorted into one pile and all the clubs and spades are sorted into a second pile. This would be quite easy to do because the suits are being sorted by a common perceptual feature—color. Now imagine doing the same task but this time sorting clubs and hearts into one pile and diamonds and spades into the other. This would probably be harder and take longer to complete because clubs and hearts are not as related to each other as are hearts and diamonds. The simple idea is that things that are associated by some feature are easier to put together than things that are not associated.

Now translate the idea of sorting cards by their suit to sorting items by their social categories. A gender IAT, for example, would provide a measure of the relative strength with which *female* and *male* are associated with *family* versus *career* concepts. Like sorting cards by their suit, sorting *female* with *family* and *male*

with *career* would be easier than sorting *female* with *career* and *male* with *family*. The IAT can thus provide a measure of the strength of association between mental constructs: *categories* such as "female" or "male" on the one hand and *attributes* such as "family" or "career" on the other. A gender IAT of this type functions as a measure of implicit stereotype. It measures strength of association between category and attribute by using the time it takes to make the pairings, and the number of errors in classifying, while respondents are trying to respond rapidly. The strength of association between categories and evaluative attributes such as *good* and *bad* provides a measure of implicit attitude, and the strength of association between self and evaluative attributes provides a measure of implicit self-esteem. The IAT is best administered via computer and can use words, pictures, or sounds to represent concepts. This makes the IAT flexible enough to administer to the blind, young children, and others who are unable to read.

How to Make an IAT

Several articles have described methods of constructing an IAT. Sample IATs may be found at https://implicit.harvard.edu, and background papers and information about programs appear at http://projectimplicit.net/.

Facts About IAT Results

- The IAT has been used in research all over the world, revealing the pervasiveness of phenomena of implicit attitudes and stereotypes.
- Implicit biases revealed by the IAT are often not observed on parallel self-report (explicit) measures.
- Because of the frequent deviation of IAT measures from parallel explicit (self-report) measures, IAT results sometimes surprise a person—revealing information that was not consciously available.
- Implicit bias is observed even in children as young as 4 years of age.
- Implicit biases have been observed to vary as a function of one's own group membership and life experiences.
- IAT measures have effectively predicted behavior such as friendliness, giving resources, and other preferential decisions about members of different groups. That is, those people who show stronger IAT-measured biases against a target social group are also more likely to discriminate against that target group and its members.

- IAT measures can be influenced by situations of administration but nevertheless show stability across time.

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See also Accessibility; Implicit Attitudes; Research Methods; Self-Reports; Social Cognition

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IMPLICIT ATTITUDES

Attitudes provide summary assessments that assist in decisions about how to interact with the world. An attitude is an association between a concept and an evaluation—positive or negative, favorable or unfavorable, desirable or undesirable. Attitudes help guide people's judgment and behavior. Should I approach the bear with the big claws or run away? Should I eat this cactus? Do I like members of that group? In short, is this thing good or bad?

One way that attitudes can be measured is by asking people to report their feelings. For example, to find out someone's attitude toward ice cream, we might ask

the person to rate his or her attitude on a response scale ranging from 1 (*dislike ice cream very much*) to 8 (*like ice cream very much*). Alternatively, attitudes might be inferred indirectly, based on performance on a task designed to measure associations between concepts and evaluations. For example, imagine a deck of playing cards that, instead of four suits, had examples of flowers and insects, such as tulip and beetle, and words with good or bad meaning, such as *wonderful* and *horrible.* Someone with positive associations with flowers and negative associations with insects would probably sort these cards into two piles faster if "flowers" and "good" things have to go in one pile (and "insects" and "bad" words in the other), compared to sorting "flowers" and "bad" things into one pile (and "insects" and "good" things in the other). The ease of putting flowers and insects with good things compared to bad things is an indirect indication of attitudes. This example describes the logic of the Implicit Association Test.

The two ways of measuring attitudes (described in the previous paragraph) are quite different. One requires that people self-assess their feelings and then provide a rating that summarizes the feeling (I like ice cream, "6"). The other does not require any direct thought about how one feels. Instead, a respondent sorts concepts as quickly as possible, and attitudes are inferred based on the performance. These two types of measurement approaches are interpreted to reflect different types of attitudes—explicit attitudes and implicit attitudes.

Implicit Attitudes

Psychologists Anthony Greenwald and Mahzarin Banaji defined *implicit attitudes* as "introspectively unidentified (or inaccurately identified) traces of past experience that mediate favorable or unfavorable feeling, thought, or action toward a social object" (p. 8). What does that mean? The last part of the definition "favorable or unfavorable feeling . . . toward a social object" links the definition to attitudes—associations between evaluations and concepts. The phrase "introspectively unidentified" means that implicit attitudes exist outside of conscious awareness. People cannot just search their minds for these attitudes, and in trying to find them, they may be "inaccurately identified." By this definition, people can have two types of attitudes: conscious, explicit attitudes that are experienced as their feelings and implicit attitudes that are not part of their conscious experience. This implies

that implicit attitudes could be quite different from explicit attitudes.

"Traces of past experience," in Greenwald and Banaji's definition, refers to the presumed origins of implicit attitudes. Implicit attitudes are thought to reflect an accumulation of life experience. For example, a person might regularly be exposed to negative ideas about old people and aging. Consciously, this person might disagree with the negative ideas and maintain a positive explicit attitude toward the elderly and aging. Implicitly, however, this negative information may be stored as associations between negativity and old age. As is evident in this example, implicit attitudes are not more real or true than explicit attitudes. Explicit attitudes reflect conscious values, beliefs, and desired responses. Implicit attitudes reflect experience—whether the person agrees with it or not. Both types of attitudes can be important in shaping thought, judgment, or action.

Consequences of Implicit Attitudes

An active area of research seeks to identify when implicit and explicit attitudes predict behavior. The existing evidence suggests that explicit attitudes tend to predict deliberate behaviors that are fairly easy to control. For example, one's explicit attitude toward ice cream might predict whether one chooses ice cream when given as much time as necessary to make a choice among snacks. Implicit attitudes, on the other hand, tend to predict behaviors that are more spontaneous and difficult to control. So, implicit attitudes might predict the snack choice when a person is in a hurry and just grabs the first snack item that seems appealing.

Relationship Between Implicit and Explicit Attitudes

Another research area seeks to identify when implicit and explicit attitudes will be related or unrelated, and why. The most extensively studied influence is self-presentation—whether people are motivated to adjust their explicit responses because they are unwanted or they are unwilling to make them public. For example, it is generally not socially acceptable to express negative attitudes about African Americans, people with disabilities, or children. So, if people feel negatively about these groups, they may resist reporting those feelings explicitly. However, implicit responses are

relatively uncontrollable, so people may express negativity toward some groups implicitly even when they are trying to avoid it. Another predictor of consistency between implicit and explicit attitudes is attitude strength. Domains that are considered more important, or ones that people have thought about a lot, tend to show more consistency between implicit and explicit responses than those that are unimportant or rarely considered.

Open Questions

Besides the issues already described, there are a variety of questions that researchers are actively investigating to better understand the implicit attitude concept; these include the following:

To what extent are implicit attitude measures assessing the concept "implicit attitude" as it was defined? For example, is it unconscious, or more like a measure of gut feelings?

How do implicit attitudes form?

How stable are implicit attitudes?

How do implicit attitudes change?

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See also Attitudes; Dual Attitudes; Implicit Association Test

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IMPLICIT PERSONALITY THEORY

Definition

An implicit personality theory refers to a person's notions about which personality characteristics tend to co-occur in people. Can one assume, for example, that a person with a sense of humor is also intelligent? Is a charming person likely to be honest or dishonest? Is a leader someone likely to be friendly or aggressive? Implicit personality theories guide the inferences that social perceivers make of other people. For example, if a perceiver sees someone act in an energetic style and presumes that energy is linked to intelligence, then the perceiver will likely infer that the other person is intelligent.

History and Background

The notion of implicit personality theories was introduced into modern psychology by Lee Cronbach in the 1950s, with his notion of "the generalized other." This "other" contained the person's beliefs about the attributes and abilities that the typical person exhibited, along with how those attributes and abilities interrelated. Importantly, Cronbach believed that people's theories about attributes and abilities aligned those qualities into a few major dimensions of personality, and subsequent work by numerous researchers set out to discover what those dimensions were. Different researchers came to different conclusions about what the major dimensions of personality were, but some dimensions frequently uncovered were good versus bad traits, socially skilled versus unskilled, intellectually gifted versus not, active versus passive, friendly versus unfriendly, dominant versus submissive, and accepting versus rejecting of authority.

One major controversy regarding implicit personality theories is whether they reflect reality or distort it. For example, when people associate leadership with a dominant personality, are they merely reflecting the social world as it truly exists, or are they making an assumption not supported by real-world evidence—and perhaps only reflecting the fact that *leadership* and *dominance* are words that overlap in their dictionary meaning? Although any conclusion would still be contentious, one way to read the research is that implicit personality theories mirror reality somewhat but overstate it: Many people overestimate how related some traits really are in people, although those traits, in truth, are somewhat related.

It should be noted that the term *implicit personality theory* more recently has been used to denote another way in which theories about personality attributes may differ. According to the work by Carol Dweck, people differ according to whether they believe personal attributes, such as intelligence, can be modified or enhanced through effort versus remaining stable and immutable regardless of what the person does. This

use of the term *implicit personality theory* is completely separate from the one defined in this entry.

Implications

Implicit personality theories carry many implications for social judgment. They have been shown, for example, to influence performance evaluations in organizations—if an employee shows one trait, a person evaluating them assumes that they have other traits as well. Such theories have also been shown to influence memory for other people, in that social perceivers tend to remember traits and behaviors heavily suggested by their implicit personality theories that were actually not present.

Two specific types of implicit personality theories have received special attention in psychological research. First, the *halo effect* refers to the tendency to conclude that a person has a number of positive attributes if they display a few good ones (and to infer a number of negative traits if the person exhibits an undesirable one). Second, physical attractiveness tends to lead people to infer that an individual has a number of desirable traits. Physically attractive people are assumed to be warmer, more socially skilled, and even more intelligent, for example, than their peers.

One notable example of the implications of implicit personality theories centers on HIV/AIDS prevention. People assume they can tell who is HIV-positive just by looking at them—and seeing, for example, whether the person is well dressed. There is no evidence of a link between attire and health status—and so using such an implicit personality theory in this realm is, at best, worrisome.

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See also Halo Effect; Illusory Correlation; Personality Judgments, Accuracy of

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IMPRESSION MANAGEMENT

Definition

Impression management refers to the activity of controlling information to steer others' opinions in the service of personal or social goals. Although people can manage impressions of almost anything (e.g., a clothing brand, a political position), people most commonly manage the impressions others form of themselves, a subtype of impression management that is often termed *self-presentation.*

History and Modern Usage

Many writers and philosophers have observed that people engage in strategic behaviors to control the impressions that their audiences form. The sociologist Erving Goffman popularized this idea further, arguing that ordinary people in everyday life work to convey desired impressions to others around them, just as actors on a stage work to present their characters to audiences.

Of course, given that actors are pretending to be people they are not, this metaphor implies that impression management is intentional and duplicitous. While early research reflected this assumption, more recent research has revealed that people engage in impression management even when they are not intentionally trying to do so. For example, even if you feel like you can just "be yourself" around close friends and family members, you may find yourself acting quite differently—or presenting a somewhat different version of yourself—around your best friend than around your mother, without really thinking about it. You might exhibit such different behavior not only because of your own desire to be viewed somewhat differently by your friend versus your mother, but also because your friend and your mother have different expectations or demands regarding what sort of person you should be. Thus, engaging in impression management can help to ensure that social interactions go smoothly.

Impression management is not risk-free, however. Becoming excessively concerned over others' opinions can cause anxiety, thereby increasing health problems. And engaging in highly deceptive forms of impression management runs the risk that people will see through the act (although "getting caught" seems

to be the exception rather than the rule). Conversely, impression management may sometimes be *too* effective; for example, if you try to act like a rebel in one situation, your impression management may carry over such that you start to see yourself as relatively more rebellious and behave in a rebellious manner in subsequent situations. Of course, to the extent that people generally try to put their best foot forward, such carryover effects of impression management may have positive consequences.

Impression management can also be used prosocially to benefit friends. People commonly describe their friends in ways that help to support their friends' desired images. Thus, impression management can be undertaken in the service of self-serving or more other-oriented goals and represents a central component of everyday social life.

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See also Exemplification; Self-Enhancement; Self-Presentation

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INDEPENDENCE OF POSITIVE AND NEGATIVE AFFECT

Definitions

Positive and negative affect are often referred to as the Big Two emotions. They each refer to superfactors of emotion, and according to Randy J. Larsen and Ed Diener, each consists of several subcomponents of different feeling states. Positive affect refers to all high-energy emotions that feel good or pleasurable. Some varieties of such positive emotions are feeling energetic, enthusiasm, engagement, and joy. The situation is similar with negative affect, which has subcomponents of high-energy ways of feeling unpleasant, such as anxiety, worry, and distress as well as fearfulness, anger, hostility, and disgust. As such, positive and negative affect are each composed of several subfactors of emotion that go into defining them.

Conceptual Distinctions

One important distinction concerns the difference between emotional states and emotional traits. Emotion states are feelings that come and go fairly quickly, often are intense, and their cause usually lies outside of the person. You might say you are in a state of anger and that you are angry because of a specific event. The anger may be intense, but it will likely dissipate. Trait emotions, on the other hand, last longer and refer the cause, in part, to some characteristic of the person. You might say, for example, that someone is an angry kind of person, meaning that this person is frequently angry or has a low threshold for becoming angry. This describes a characteristic of the person more than a particular state caused by some event in the environment. Positive and negative affect can be thought of as states or traits, as transient emotions caused by specific events or as relatively enduring characteristics of persons.

The following example makes clear the distinction between states and traits. Consider the two emotions sadness and anger. In terms of states, people are rarely sad and angry at the same time. A person may be angry, but it is very rare for the person to simultaneously be sad. However, if one thinks about traits over a longer time frame, say, over the past 6 months, and ask the question how angry and how sad has a person been over the past 6 months, it is likely that a person reporting a high level of anger will also report a high level of sadness, just not at the same time. So in terms of traits, people who are frequently angry are also frequently sad. Again, just not at the same time. At a trait level, anger and sadness can be highly correlated (they are both part of the negative affect superfactor), whereas at a state level, anger and sadness are not correlated because they do not co-occur at the same time.

Another important distinction is between categorical and dimensional views of emotion. In the field of psychology, some researchers prefer to think of emotions as distinct categories. These researchers often have a list of specific emotions that they consider to be fundamental, usually between six and nine different emotions. These researchers do not clump

emotions into positive and negative groups, but rather feel that it is important to maintain distinctions between specific emotions. On the other hand, another group of researchers find some value to the idea that all emotions fall along a few specific dimensions and can thus be grouped. Researchers who prefer to think about positive and negative affect as superfactors are in this camp.

An interesting finding is that there are many more negative emotions than there are positive emotions. It seems humans are constructed in such a way that there are only a few ways to feel positive but many ways to feel negative. For example, negative affect includes such emotions as anxiety, anger, fear, distress, guilt, embarrassment, sadness, disgust, and shame. All of these negative emotions may have distinguishable feeling states; anger feels different from anxiety, for example. Nevertheless, anger and anxiety are both negative. Plus, the empirical finding is that at a trait level, these negative emotions tend to correlate with each other. Researchers who believe in the dimensional approach find it useful to consider all negative emotions under the single dimension of negative affect and all positive emotions under the single dimension of positive affect.

Background and History

During the early parts of psychology's history, emotion was a topic that received very little attention. When it was considered at all, emotion was thought of as disregulated cognition, as dysfunctional forms of mental activity. Starting in the late 1970s, psychology began a fresh consideration of emotion. At this time, positive and negative affect were thought of as separate ends of a single bipolar continuum. That is, it was thought that the more a person had of one emotion type, the less they had of the other. In fact, measures of positive and negative affect at this time were constructed in such a way that they ensured positive and negative affect would not be independent. It was simply felt at the time that positive and negative affect were the opposite sides of the same coin.

In the mid-1980s researchers began to question this view. They focused on constructing separate measurement scales, with positive affect being measured from zero to high levels and negative affect being measured on another scale from zero to high levels. Research began to accumulate showing that positive and negative affect were uncorrelated and correlated with other variables in different ways.

One way to think about the independence of positive and negative affect is to consider what makes you happy and what makes you sad. Those things that make a person happy, when they are absent, do not guarantee that person will feel sad. Similarly, those things that make a person feel sad, when they are absent, do not guarantee that the person will feel happy. In other words, the positive and negative affect systems appear to respond differently to different events in people's lives. It is also likely that the brain centers that are responsible for generating the experience of positive and negative affect are separate. Reward circuits in the brain are partly responsible for positive emotions, and these positive emotions are transmitted through humans' nervous systems by the neurotransmitter known as dopamine. In fact, dopamine is activated by those events that typically create pleasurable feelings. For example, many drugs of abuse, such as cocaine, activate the dopamine system and are responsible for the intense feelings of pleasure that accompanies the ingestion of this addictive drug. Dopamine is also activated by other events that generate pleasure; for example, a kiss from someone a person loves or eating a meal that a person particularly likes. Similarly, other brain centers, particularly the limbic system, are responsible for feelings of negative affect (fear, anger, hostility, etc.) and are potentially distributed through the nervous system through the serotonin neurotransmitter system. As psychology has matured and its consideration of emotion has continued, evidence has accumulated that positive and negative affect function differently, have different biological bases in the nervous systems, and are responsive to different events in people's lives.

Consequences

One consequence of the realization that positive and negative affect are independent is the creation of measures that tap each of these emotions separately. There are now a number of published measures for assessing these emotions, such as the Positive and Negative Affect Schedule. Another consequence of the independence of the positive and negative affect is research on the different operating characteristics of each of these emotional systems. One way to summarize this is the simple phrase that "bad is stronger than

good." For example, a life event that is negative, say of the value −1 will cause more negative emotion than a positive event of +1 will cause positive emotion. The psychologist Danny Kahneman has shown that losses are more powerful than equally strong gains; for example, losing $50 will make people feel sadder than winning $50 will make them feel happy. In other words, gains and losses of equal magnitude nevertheless result in negative affect and positive affect of different magnitudes. Another example from the social psychological literature is that a negative first impression will last longer than an equally positive first impression. There are many examples where bad is stronger than good. In fact, this effect is called the *negativity bias;* people respond stronger to bad events than they do to equally good events. However, another concept applies to positive affect, which is called the *positivity offset.* This refers to the fact that most people, most of the time, are in a slightly positive state. In other words, the default human emotional condition is not zero but slightly positive.

Another consequence of the independence of positive and negative affect concerns overall well-being. If psychological well-being is thought of as the ratio of positive to negative emotions in a person's life over time, then it suggests that there are two routes to well-being. One route would be to maximize the numerator in this ratio, that is, to try to maximize positive affect. The other route would be to try to minimize the denominator, that is, to limit the amount of negative affect. These two routes to well-being are a consequence of the finding that positive and negative affect are independent.

Individual Differences

At a trait level, positive and negative affect correlate in different ways with measures of personality. Positive affect is highly correlated with Extraversion and many of its facets. For example, people high on positive affect tend to be very sociable persons: They are outgoing, like to be with other people, like being the center of attention, and tend to be talkative and engaging. Positive affect also correlates with high activity level: People high on positive affect tend to be lively and animated and engaged in whatever activity they are involved in. Finally, positive affect correlates with Agreeableness**:** People who experience high levels of trait positive affect tend to get along well with

others, are cooperative, are consensus builders, and work well in groups.

Negative affect at a trait level also correlates with specific personality dimensions. People high on negative affect tend to be high on a personality dimension known as Neuroticism. Neuroticism describes a cluster of traits that includes being pessimistic, always thinking on the negative side of things, and expecting the worst to happen. It also correlates with being dissatisfied in general, with the tendency to complain a lot about anyone or anything. People high on this dimension also report a lot of psychosomatic symptoms, such as backaches, stomachaches, and headaches. And finally, people high in negative affect tend to worry a lot; they expect the worst to happen and they worry whether they will be able to cope with what the future holds.

These personality correlates of positive and negative emotion raise the interesting question about which is causing which. That is, from a correlation perspective, researchers don't know whether personality is causing the emotion or whether there may be a third variable that may be related to both. For example, it could be that extraverts engage in the kind of activities that generate positive emotions, and it is these activities, not Extraversion per se, that are responsible for heightened positive affect. However, an alternative model is that extraversion represents a lower threshold for experiencing positive emotions. Research has come in on both sides of this debate. Nevertheless, there is a great deal of evidence to suggest that extraverts, in fact, do have higher levels of positive emotions in their lives and that people high on the dimension of Neuroticism have high levels of negative emotions in their lives.

Randy J. Larsen

See also Affect; Emotion; Positive Affect

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INDEPENDENT SELF-CONSTRUALS

Definition

Self-construal refers to the way in which a person thinks about and defines the self. Importantly, self-construal is not only a way of viewing oneself but also a way of understanding one's relationship to the larger social world. When people are construing or thinking about themselves in an independent way, they are likely to think first and foremost about the personality traits (e.g., "I am outgoing"), abilities (e.g., "I am a great cook"), and preferences (e.g., "I love the purple jellybeans but hate the green ones") that, in combination, create a profile of the self that is uniquely their own. An independent self-construal, because of its emphasis on internal and distinctive personal characteristics, is thus one in which the self is seen as a unique individual, fundamentally separate from others. Interestingly, thinking of the self in this independent way has been shown to have a profound influence on both cognition and behavior.

Background

Given that viewing the self relative to one's unique personality and distinct abilities and attitudes is what has traditionally been thought of as *self-definition,* one could argue that much of the existing research on the self has explored independent self-construals. Indeed, the recognition that an independent construal of the self might be just one of several types of self-views wasn't widely accepted until the early 1990s, after cross-cultural research by Hazel Markus and Shinobu Kitayama revealed that describing the self in terms of unique attributes was a typical North American and European construal of the self but did not adequately portray the self-views of members of East Asian and Latin American cultures, because they typically describe the self in a more social fashion through referring to important relationships and groups. The recognition that thinking about the self as unique was a distinct type of self-construal opened the door to research that would better reveal its cognitive and behavioral consequences.

Subsequent research also paved the way by revealing that independent self-construals could be activated in everyone, regardless of culture. Independent self-construal can be understood as thinking of the self as only a "me" rather than as part of a larger "we." Researchers discovered that an independent self-construal could be encouraged by either directly asking participants to describe themselves in ways that made them different from others, or by indirectly priming them to think of the self this way by reading independently focused stories or even having them circle the words *I, me,* and *mine.* This methodological discovery allowed research to be conducted that could specifically assess what effects holding an independent construal had, regardless of cultural context.

Cognitive Effects

One of the most interesting discoveries about independent self-construal concerned its impact on overall perception and cognition. Researchers have found that defining the self in an independent way encourages one to perceive the world in a more independent or context-free way. In an ingenious set of studies, Uli Kuhnen and Daphna Oyserman showed that when one is thinking of the self as a unique individual regardless of social relations, one also attends and processes the physical world in terms of unique objects rather than their relations. In other words, people with an independent self-construal truly do ignore the forest by paying too much attention to the trees! This finding has implications for social perception—and may explain why North Americans so easily fall prey to the *fundamental attribution error,* or failing to think about the pressures of the social situation when explaining another person's behavior (e.g., assuming someone who is late to a meeting is irresponsible, rather than considering that he may have been caught in traffic). Interestingly, this focus on other people's dispositions rather than the situation as the cause of their behavior could be simply a social side effect of the more general cognitive processing style of paying attention to individual actors and objects rather then considering their broader context.

Values and Social Behavior

When people construe the self as independent, it increases the importance of maintaining autonomy from others. Values like freedom, choosing one's own goals, and leading a pleasurable life take precedence,

and independent people are uncomfortable with punishing people who engage in negative interpersonal behavior and break social norms to the extent that it could interfere with the individual right to "do your own thing." In addition, the construal of the self as separate from others means that personal pleasures and accomplishments are the primary basis for life satisfaction and well-being. Researchers who study the influence of self-construal on well-being have consistently found that for people with an independent self-construal, personal self-esteem has much more of an impact on their reported life satisfaction than does the quality of their social relationships. Moreover, when individuals are thinking of the self in an independent fashion, they pay more attention to, and more actively pursue, tasks that seem to offer a high likelihood of personal success.

As for social behavior, the data concerning independent self-construal are mixed. On the one hand, several researchers have shown that thinking of the self in an independent fashion appears to have detrimental consequences for social interaction and behavior. Many studies have shown that independent construals result in people's behaving more competitively with one another, working less hard on group tasks, becoming less helpful to others, and performing poorly at group problems and social dilemmas. However, a recent line of research by Sonja Utz has revealed that the relationship between independent self-construal and social behavior may be more complex than it originally appeared. Her work points out that an independent self-construal fundamentally focuses the person inward, activating the self-concept, and motivates the person to behave in a way that is consistent with his or her unique personality. Thus, to the extent that someone holds a strong and central value for cooperation, making the person think of the self as independent may actually result in cooperative rather than competitive behavior because of the coherence of the behavior with the person's own self-concept. In other words, it seems than an independent self-construal may encourage a person's core personality characteristics, whether prosocial or selfish, to drive behavior.

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Erica Slotter

See also Interdependent Self-Construals; Self

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INDIVIDUAL DIFFERENCES

Individual differences are the more-or-less enduring psychological characteristics that distinguish one person from another and thus help to define each person's individuality. Among the most important kinds of individual differences are intelligence, personality traits, and values. The study of individual differences is called *differential* or *trait psychology* and is more commonly the concern of personality psychologists than social psychologists. Individual differences are neither a fiction nor a nuisance; they are enduring psychological features that contribute to the shaping of behavior and to each individual's sense of self. Both social and applied psychology can benefit by taking these enduring dispositions into account.

Background and History

Individual differences in cognitive abilities have been studied since the 19th century, when Sir Francis Galton published *Hereditary Genius,* and they have continued to occupy the attention of psychologists, including Alfred Binet and David Wechsler, who produced some of the most widely used measures of intelligence. Individual differences in personality traits were studied conceptually by Gordon Allport and more empirically by Raymond Cattell and Hans Eysenck. Current views on individual differences in personality are dominated by the Five-Factor Model or Big Five.

Most individual differences are a matter of degree. Although it is convenient to talk about introverts and extraverts as if these were two distinct classes of people, in fact most people have some features of both introversion and extraversion and would fall near the middle of the distribution. Most traits are distributed in the familiar bell-shaped curve; there is little evidence for distinct types in psychology.

At any given time, people differ in their moods and their opinions of the weather. But the individual differences of greatest interest are those that reflect some enduring aspect of the individual. Both cognitive and personality traits meet this description. Longitudinal studies conducted over periods as long as several decades show that in adults, traits like verbal intelligence, emotional stability, and musical ability are exceptionally stable, with very gradual changes and high rank-order consistency. Young adults who are bright, unflappable, and tone-deaf are likely to be bright, unflappable, and tone-deaf 40 years later.

Several explanations have been offered for the stability of traits. For example, it is sometimes said that people build a life-structure that sustains their traits. The intellectually curious woman subscribes to magazines that continue to stimulate her curiosity and exercise her intellect. The sociable man acquires a circle of friends who reinforce his sociability. In addition, however, there is now compelling evidence from hundreds of studies that both cognitive and personality traits are substantially heritable, and the same genes that make one, say, suspicious at age 30 make one suspicious at age 70.

Ralph Waldo Emerson, the American transcendental philosopher, was dismayed by the evidence of trait consistency he saw, because it seemed to him to deprive people of freedom of will: "Temperament," he wrote, "puts all divinity to rout." But people generally embrace their own traits, recognizing them as integral parts of their identity. People might sometimes wish to be more assertive, organized, or imaginative, but in the long run, most accept their traits as their own authentic selves.

The consistency of traits over time is not matched by their consistency over situations. Sometimes friendly people smile at strangers; sometimes they don't. They may be preoccupied by an upcoming interview or depressed by the morning's news. When, in the 1960s, psychologists began to document this inconsistency in laboratory studies of behavior, it ignited one of the most celebrated controversies in the history of psychology, the person–situation debate. Some researchers were so struck by inconsistency that they came to believe that traits were completely fictional, that is, stories people made up about themselves or adopted from others. The consistency of traits over time was, these skeptics thought, merely the stability of a myth.

Eventually a more sophisticated understanding of traits emerged. Traits are only one of many influences on behavior at any particular time, so consistency between one situation and another is quite limited. But traits are enduring, so over a period of days or months, they have a cumulative effect on the pattern of behavior that we recognize as sociability or nervousness or stubbornness, and it is this general pattern that is stable over time. In gambling casinos, the house sometimes wins, sometimes loses—but in the long run, owning a casino is almost guaranteed to make you rich. Traits operate in the same probabilistic way.

Individual Differences and Social Psychology

Curiously, individual differences first came to the attention of experimentalists as a source of consistent error. In the 19th century, astronomy depended on human recordings of the precise moment when an object crossed a specified point in the sky, and different astronomers reported slightly different values. Charles Wolf noted that these discrepancies were consistent, and he developed personal equations to correct the reports of different observers. Studies of perceptual speed and reaction time grew out of this observation.

For some social psychologists, individual differences are nuisance variables that make life more difficult. In the typical social psychology experiment, subjects are randomly assigned to different conditions and exposed to different experimental manipulations; their behavior is then recorded. In this way, the experimenter hopes to learn how people respond to different situations. For example, terror management theory suggests the hypothesis that people should become more patriotic when reminded of death. So subjects might be shown scenes either of a cemetery or a parking lot and then be asked their evaluation of the national flag. One would expect a range of responses, but if the theory is right and the experiment well done, then on average

those individuals who saw the cemetery should report more positive feelings about the flag.

But there are also enduring individual differences in patriotism, and those are likely to cloud the results. By randomly assigning subjects to conditions, one hopes to equalize the effects of individual differences, but they still contribute noise. In principle, one could assess patriotism separately (perhaps a month before the experiment) and remove its effects statistically. In practice, this is rarely done.

Other social psychologists, however, realize that individual differences can be utilized as a natural experiment. Arie Kruglanski and colleagues proposed that decisions are often made on the basis of a need for closure—the need to reach a definite conclusion (regardless of its correctness). Experimentally, this need can be manipulated by varying time pressure on subjects or even by making the task unpleasant by conducting the study in the same room as a noisy computer printer. Under these conditions, people tend to seize on the first information they are given and freeze their opinions. But Kruglanski also realized that there may be individual differences in the need for closure (in fact, related to the personality trait of low Openness to Experience) and that individuals who are high in need for closure may habitually react like people put under time pressure. A series of experiments confirmed this hypothesis.

Individual differences may also interact with experimental manipulations. The sight of a cemetery may be a much more powerful cue to death for someone chronically high in anxiety and thus may have a correspondingly stronger effect on subsequent patriotism. A stubborn and antagonistic subject may resent the experimenter's attempted time pressure manipulations and deliberately ignore them. Social psychologists routinely examine their data to see if the effects are different for men and women; perhaps they should routinely assess traits and their interactions with manipulations.

Most of the topics of interest to social psychologists, including attachment, achievement motivation, risk-taking, prejudice, altruism, and self-regulation, are associated with enduring individual differences. Social psychologists usually study the mechanisms by which these phenomena operate or the conditions that enhance or reduce them. By understanding the processes that give rise to behavior, social psychologists hope to be able to develop interventions to change them. Individual differences are, by and large, not easily altered, so they sometimes seem irrelevant to interventionists.

But it makes sense to consider trait levels in attempting to change behavior. For example, researchers may wish to help dieters control their eating behavior. Researchers know that people high in Conscientiousness are more self-disciplined than those low in Conscientiousness, and this information can figure into the approach to the problem. For conscientious dieters, researchers might need only to focus on education: If they understand the principles of nutrition and the health risks of obesity, they may have enough incentive to change their eating habits. Dieters low in Conscientiousness need more help; extra encouragement, group support, or a locked refrigerator may be required. Other individual differences might also be relevant to the selection of treatments. Some people eat less when alone or when eating with other people who are also dieting. Assigning introverts to the former condition and extraverts to the latter might facilitate self-control in a congenial setting.

Robert R. McCrae

See also Big Five Personality Traits; Genetic Influences on Social Behavior; Personality and Social Behavior; Research Methods; Traits

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INFERENCE

Definition

Inference is the act of judging a person, even when limited information is available. People usually form their inferences by paying attention to important

information around them and then using a set of rules to come to some decision. When people infer why something happened, they often consider whether the outcome was positive or negative. Positive outcomes tend to be socially desirable, whereas negative outcomes are perceived as socially undesirable. Thus, the social desirability of a behavior determines the qualities people infer about the person who committed the act.

Prominent Perspectives

Fritz Heider's attributional perspective tries to explain how regular people decide where the behavior of others originates. When people infer that someone's behavior was the result of stable personality traits, they make a dispositional inference, but when behavior is thought to result from external, contextual sources, they make a situational inference. Research generally finds that people make dispositional inferences about others because it provides a template for how the others will behave in other situations.

Harold Kelley's covariation theory predicts that people make inferences by estimating the extent to which causes and outcomes are related. More simply, people are more likely to infer that A caused B if they both occurred similarly in time. If an outcome has more than one potential cause, then people tend to discount all those potential causes, making it hard to determine the actual cause of the outcome. When the sole cause of an outcome can be determined, the inference is easier to make.

Inferential Errors

The inferential process is imperfect and subject to systematic errors. The *correspondence bias* is the perception that behaviors correspond with underlying traits, even when this may not be the case. The *actor–observer effect* is the tendency to overemphasize the situation when inferring about one's own behavior but not the behavior of others. One's inferential errors are usually self-serving, in that they tend to enhance positive perceptions of the self and negative perceptions of others.

Why Is Inference Adaptive?

Inference serves three adaptive purposes: understanding, controlling, and self-enhancement. In an unpredictable social world, making causal inferences creates a sense of understanding with the added possibility to influence outcomes. The inferential process also fosters a sense of control over the environment, as people come to expect some relationship between causes and effects. By making trait inferences for other peoples' negative acts, people view themselves more positively by comparison, simultaneously maintaining a positive sense of self. In general, the inferential process is both functional and adaptive.

Devin L. Wallace

See also Attributions; Kelley's Covariation Model; Self-Enhancement

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INFLUENCE

Every species of social animal and eusocial insect must have a means of social influence—a way for one or more members of the species to direct, coordinate, and influence other members of the species. Such social influence tactics determine the allocation of resources within a community of the species and also provide an evolutionary advantage to social species in their quest to gain the resources needed for survival. For example, *Pogonomyrmex barbatus* (red harvester ants) dynamically allocate tasks within their colonies (e.g., forging, patrolling, midden work) by having each ant follow a social consensus rule of "the more contact with another ant succeeding at a task, the more likely I should switch to that task." *Pan troglodytes* (chimpanzees) use a number of social influence tactics to establish social relationships and to allocate resources, including coalition formation, reciprocity, submissive greetings to establish a dependency relationship, empathy, and the establishment of norms. Humans (*Homo sapiens*) employ a variety of social influence techniques that are highly adaptive to a range of social and environmental situations.

Social influence means any noncoercive technique, device, procedure, or manipulation that relies on the social psychological nature of the organism as the means for creating or changing the belief or behavior of a target, regardless of whether or not this attempt is

based on the specific actions of an influence agent or the result of the self-organizing nature of social systems. It can be contrasted with two other forms of influence: (1) *power* or the control of critical resources, including its most extreme application of war; and (2) outright *deception* to lead an organism to believe he or she is doing X but in reality is doing something else. In other words, social influence uses tactics that appeal to the social nature of the organism. Among humans, it is their nature to fear, feel dissonance, return a favor, value what is scarce, empathize with others, make judgments dependent on context, seek phantom goals, and easily adopt the social roles of their social group, along with other characteristics. Social influence tactics make use of these attributes of human nature to invoke such processes as conformity (creating or changing behavior or belief to match the response of others), persuasion or attitude change (change in response to a message, discourse, or communication), compliance (change in response to an explicit request), yielding to social forces (change in response to the structure of the social situation), or helping (change in response to someone's need).

History of Social Influence Research

Throughout human history as a species, human beings have attempted to understand what influences and persuades them. Some of these attempts were based on superstitions and pseudoscientific beliefs and thus have missed the mark. For example, at various times in human history, people have believed that the stars and the planets (astrology), bumps on our head (phrenology), the four humors (or special fluids of blood, yellow bile, black bile, and phlegm), magnetic forces (Mesmerism), and witches, demons, and angels have mysteriously controlled human behavior.

Nevertheless, some members attempted to use empirical observation to understand persuasion and influence. The first recorded attempt to classify social influence tactics was conducted by the Sophists (including Protagoras, Isocrates, and Gorgias) of 5th century B.C.E. Greece. (In China in the 3rd century B.C.E., Han Fei Tzu developed a handbook with a similar goal.) The Sophists were itinerate teachers of persuasion and created handbooks of "commonplaces"—general arguments and techniques that could be adapted for a variety of persuasive purposes. Sometime around 333 B.C.E., Aristotle began compiling a list of these influence techniques (mostly taken from the Sophists) in his book *Rhetoric,* the earliest surviving book on influence. The next great attempt to codify the ways of influence occurred in Rome with the efforts of the lawyer Cicero and the rhetoric instructor Quintilian.

However, it was not until the late 19th century that the scientific method was used to explore the ways of social influence. In 1898 Norman Triplett conducted the first social influence experiment by having people turn fishing cranks either alone or in the presence of others. He found evidence for social facilitation or faster cranking turning when others were present. Also in the late 19th century, Gustave Le Bon popularized a theory of crowd behavior based on the metaphor of hypnosis or the notion that the crowd took over the will of the person much like the suggestions of a hypnotizer commands the unconscious of the hypnotized. Although popular in his day, Le Bon's theory has not stood the test of time, but it did serve as a foil to stimulate later research.

World War I changed the trajectory of social influence research. In the United States and Britain, the war was marked by a period of patriotism; after the war, many citizens became disillusioned by the results and came to feel that they had been duped by propaganda. The zeitgeist of the times championed the belief that social influence and mass propaganda were all-powerful (based on either suggestion theories from psychoanalysis or behaviorism's belief in malleable human behavior). Researchers and scholars began documenting this belief as well as attempting to find ways to inoculate citizens from propaganda. Social influence research during the interwar period featured the use of the experimental method to document that "persuasion happens," case studies of propaganda, and the development of survey methods. In the 1930s, a group of scholars formed the Institute for Propaganda Analysis with the expressed goal of teaching Americans about how to counter propaganda.

As with World War I, World War II also changed the trajectory of social influence research. As part of the war effort, many scholars became deeply involved in social influence research, including campaigns to maintain and promote the morale of the public and troops and to counter Nazi propaganda. After the war, these researchers returned to their universities and began (along with their students) to study social influence phenomena that had been at the heart of the war effort, such as conformity, mass communications, prejudice, power, and obedience to authority. The result was a flourishing of exciting scientific research on

social influence and the development of a large body of knowledge about how influence works and why. To give a flavor for research on social influence during the 1950s and 1960s, this entry briefly describes three lines of research.

At Yale University, Carl Hovland conducted a program of experimental research investigating the effects of various variables (e.g., source credibility, individual differences, organization of the message) on persuasion. The results, in contrast to assumptions made during the interwar years, showed weak effects of these variables on social influence. Similar minimum effects were being obtained in survey research, which found, for example, that few voters changed their voting preferences as a result of mass media content. The resulting model of influence was termed *minimum effects* and posited that persuasion was the result of a series of steps (attention to the message, comprehension, learning of message, yielding, and behavior), each with a decreasing probability of occurring.

In 1968 to account for empirical anomalies in the Hovland model, Anthony Greenwald presented a revision, which replaced the intervening steps with one core process: cognitive response. The resulting approach to persuasion, known as the Ohio State School, states that influence is the result of the thoughts running through a person's head as he or she processes a persuasive communication. (In this case, the power of the mass media is dependent on its ability to change cognitive responses, which can vary as a result of a number of factors.) Subsequent research has focused on the question, "What determines a person's cognitive response to the message?" with one of the most comprehensive answers provided by the elaboration likelihood model of Richard Petty and John Cacioppo.

A second line of research stems from Leon Festinger's 1957 book, titled *A Theory of Cognitive Dissonance.* In this book, Festinger puts forth a deceptively simple thesis: When a person is confronted with two conflicting thoughts, it creates a tension state; that individual is highly motivated to reduce that tension or dissonance. This simple theory stimulated a wealth of interesting research hypotheses and experiments about the nature of social influence. The research on dissonance has been very useful for identifying and understanding a range of social influence tactics, such as effort justification, insufficient justification, commitment, and guilt, and has provided researchers a means of understanding seemingly counterintuitive instances of influence.

The final line of research obtained what is perhaps the single most important discovery in social influence research and most likely within the discipline of psychology itself—that situations are more powerful in controlling human behavior than most people think. This line of research began by questioning research results presented in a dissertation in 1935 by Muzafer Sherif. In that research, groups of people judged the movement of the autokinetic effect (an illusion that a light moves when placed against a dark background). Sherif's results showed that groups quickly developed norms for making these judgments and that these norms would guide their subsequent judgments. In the late 1940s, Solomon Asch looked at the conformity results obtained by Sherif to conclude that the findings were dependent on the nature of the ambiguous autokinetic stimuli used in the research; Asch further reasoned that surely conformity would not occur if a group of people made obviously incorrect judgments of an unambiguous stimulus. In the true spirit of science, Asch promptly designed a set of experiments to prove himself wrong. In his studies, Asch had a group of confederates judge the length of lines and clearly provide a wrong answer. Surprisingly, he found that a majority of subjects went along with the group.

In the early 1960s, Stanley Milgram was interested in explaining obedience to authority in terms of personality and culture-based character traits (e.g., "Germans are most obedient" as an explanation for the Holocaust). He also believed that Asch's line judgment task had no personal consequences for the subjects and thus was not a full test of conformity. Milgram designed his famed "obedience to authority" procedures to take account of these hypotheses. The results showed that a majority of people were willing to give another person painful shocks when commanded to do so by an authority and that character and personality did not explain these results. Instead, Milgram's research was a powerful demonstration of the power of the social situation to control behavior—a finding that has been repeatedly demonstrated in studies such as Bibb Latané and John Darley's bystander apathy research and Philip Zimbardo's Stanford prison experiment.

The modern era of social influence research began with the 1984 (last revised in 2001) publication by Robert Cialdini of his book *Influence.* This seminal work summarized past social influence research, categorizing it into six core principles of influence: reciprocity, scarcity, consistency, authority, liking, and social proof. More importantly, it serves as an

inspiration for a new generation of social influence researchers. In no uncertain terms, Cialdini showed that complex influence processes can be understood in terms of basic principles and that these principles can be powerful in understanding and changing the social world. In his empirical work, Cialdini has shown that seemingly intractable social influence processes can be untangled and made sense of through the careful application of the experimental method, thereby inspiring the next generation of researchers to do the same.

Social Influence Analysis

To understand a eusocial or social species and to predict the behavior of its members, it is essential to analyze the nature of social influence within that species. Such a social influence analysis consists of a description of the social influence tactics used by species members, principles or psychological processes underlying those tactics (e.g., dissonance, social cognition principles), how influence is exchanged within a community (e.g., likely tactics employed, profiling of influence agents), patterning of influence within a species and its communities (e.g., communication networks, channels of influence, social institutions), and theories and models of the operation of influence.

While a complete presentation of a social influence analysis is beyond the scope of this entry, this entry will present examples of such analyses and give an overview of how to make sense of the power of the situation. At the heart of a social influence analysis is an understanding of the social influence tactics used in the situation. Table 1 presents a list of 21 common influence tactics culled from a list of 107 experimentally investigated tactics presented by Anthony R. Pratkanis. These tactics can then be used to understand the influence occurring in any situation. For example, the Milgram obedience experiments made use of authority, foot-in-the-door, and increasing levels of commitment. Pratkanis and Doug Shadel recently analyzed undercover investigation tapes of con criminals attempting to convince victims to part with their hard-earned cash. They found that con criminals serve up an "influence cocktail" by using such tactics as phantom fixation, authority cues, friendship relationships, scarcity, norm of reciprocity, along with other tactics. The value of such a social influence analysis is that the seemingly mysterious power of a situation can be understood in simple terms, resulting in the ability of an influence agent to intervene and change the dynamics of the situation (hopefully) for positive results.

Anthony R. Pratkanis

Table 1   Some Common Social Influence Tactics

Tactic	Description
Authority	Authority increases obedience and compliance with commands. *Example:* Con criminals play the role of law enforcement, bank president, or CEO.
Commitment	Securing a commitment to a course of action increases the likelihood that a person will comply and perform that behavior. *Example:* The frequency of recycling can be increased by obtaining a commitment to recycle.
Comparison Point or Set	Options are evaluated by comparison to salient alternatives with an advantage gained by making certain comparisons more salient. *Example:* Sales agents selectively compare their products to make them appear more attractive.
Define and Label an Issue	How an issue is labeled controls and directs thought that then facilitates persuasion. *Example:* A lawsuit against quack medicine is defined as "anti–freedom of choice" not "pro–consumer protection."
Door-in-the-Face	Asking for a large request (which is refused) and then for a smaller favor. *Example:* Commonly used in fund-raising appeals.
Emotional See-Saw	Inducing a change in emotions (happy to sad or vice versa) increases compliance. *Example:* Used in interrogations to extract confessions.

Tactic	Description
Expectations	Expectations guide interpretations to help create a picture of reality that is congruent with expectations. *Example:* Politicians set expectations low so that a victory can be claimed when expectations are exceeded.
Fear Appeals	Fear is aroused, and a simple, doable recommendation for eliminating the fear is suggested. *Examples:* The "Daisy" ad and the "Willie Horton" ad used in the 1964 and 1988 U.S. presidential campaigns, respectively.
Foot-in-the-Door	Asking for a small request (which is granted) and then for a larger favor. *Example:* The Viet Cong infiltrated villages by asking for a small favor (glass of water) followed by larger requests.
Friend (Liking)	Close relationships such as friendships and love relationships create obligations to place the needs of others before our own and to go along with their requests for help. *Example:* Con criminals play the role of friend and even lover to secure compliance with their demands.
Granfalloon	A social identity is used to tell a person what to do (people believe X because they are Ys) and to provide a source of self-esteem. *Examples:* Nazi, al Qaeda, Ku Klux Klan member.
Imagery Sells	Imagining the adoption of an advocated course of action increases the probability that that course of action will be adopted. *Example:* Effective sales agents have customers imagine using the product.
Misleading Questions	Ask questions to structure information and to imply certain answers. *Example:* False memories of child sexual abuse can be elicited by symptom questionnaires.
Norm of Reciprocity	Provide a gift or favor to invoke feelings of obligation to reciprocate. *Examples:* Hare Krishna members gave potential donors a flower in hope of obtaining a donation.
Phantom	An unavailable option that serves as a reference point and as a source of motivation for obtaining a goal. *Example:* Cult leaders dangle worthy but phantom goals of a perfect world and bliss to motivate members.
Projection	To cover one's misdeed, one accuses another person of the negative behaviors to deflect attention away from one's own misdeeds and toward the accused. *Example:* During the Korean War, North Korea claimed U.N. forces were using chemical warfare resulting in illnesses, when in fact the sicknesses were the result of typhus brought to Korea by Chinese soldiers.
Repetition	Repeating the same information increases the tendency to believe and to like that information. *Example:* The Marlboro man has been repeated in ads many times since the 1950s.
Scarcity	Scarce items and information are highly valued. *Example:* "Offer available for a limited time only."
Social Consensus	If others agree, it must be the right thing to do. *Example:* Mao's propaganda posters often showed many people engaged in a state-approved behavior.
Storytelling	A plausible story serves to guide thought and determines the credibility of information. *Example:* Lawyers embedded the facts of their cases in compelling stories.
Vivid Appeal	Vivid (concrete and graphic) images can be compelling. *Example:* War propaganda often consists of vivid pictures and reports.

Source: Adapted from Pratkanis, A. R. (2007). Social influence analysis: An index of tactics. In A. R. Pratkanis (Ed.), *The science of social influence: Advances and future progress* (pp. 17–82). Philadelphia: Psychology Press.

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Informational Influence

Definition

Informational influence refers to new information or arguments provided in a group discussion that change a group member's attitudes, beliefs, or behavior. Informational influence is likely to be stronger when a person is uncertain about the correct interpretation of reality and/or the correct behavior in a given context and therefore looks to other group members for guidance.

History and Usage

The concept of informational influence was originally proposed by Morton Deutsch and Harold B. Gerard,

who were trying to understand why group members holding a minority view tended to adopt the group majority's view. They argued that there were two ways that groups can affect individuals. Deutsch and Gerard sought to clarify earlier research that failed to distinguish between these two ways and the related types of motivation that people may have for "going along with the group majority." One motivation is the desire to have an accurate view of reality: When the group majority provides information to a person about reality that is not consistent with that person's view, the person may change his or her view to be correct. This change can be said to result from informational influence.

The second motivation is the desire to be liked by the group. Here, influence occurs when a person changes an attitude, belief, or behavior to be more similar to the group's attitude, belief, or behavior to be accepted by that group. This second form of group influence is often called *normative influence* because the individual follows the group norm—which is what the group believes the individual ought to do—regardless of whether it reflects that individual's attitudes or beliefs.

The effects of informational influence have been clearly demonstrated in social psychological research. The leading explanation for these effects is known as the *persuasive arguments theory*, which states that the persuasive argument or information the majority uses to influence a person must be perceived by the person to be both novel (new to the person) and valid.

Informational influence has often been examined in the context of group decision making. For instance, a jury may be divided as to the guilt or innocence of a defendant. The group majority will attempt to convince members of the minority to change their votes to match the majority's vote. The majority will be better able to exert informational influence over the minority if it offers new arguments that the minority perceives to be valid or correct. Simply stating the same old arguments again and again or making arguments that the minority views as incorrect will not typically produce informational influence.

One issue that has been raised with regard to informational influence is whether it is truly distinct from normative influence. The question boils down to how people decide if the information or argument provided by the group majority that is designed to influence the minority is itself true. The group majority has already decided that the information or argument is true, and it expects the minority to agree. Since the information provided by the majority also represents what it wants

the minority to accept, that information acts like a group norm. Influence stemming from this informational norm reflects both informational and normative influence.

Daniel W. Barrett

See also Conformity; Normative Influence

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INGRATIATION

The term *ingratiation* refers to behaviors that a person illicitly enacts to make others like him or her or think well of his or her qualities as a person. There are many ways in which people can ingratiate themselves. One that is frequently used is to show interest in another person; ask questions, pay attention, and single out the person so that you make him or her feel special. A second strategy is do favors or to help or assist a person. For instance, you can bring your colleague a cup of coffee or help an attractive stranger with car trouble. Third, you may show support and loyalty, for instance during a meeting, when you express agreement with your supervisor. A fourth way to make people like you is simply to smile and be friendly, cheerful, and positive. Fifth, you can directly express admiration by flattering people and telling them what you like or admire about them. There are many other ways to make people like you; the bottom line is that any behavior that potentially has the effect of enhancing your likeability and is enacted for this reason can be seen as an instance of ingratiation.

This does not mean that all likeable behaviors are examples of ingratiation; the crucial point is what the motive for the behavior is. For instance, if you support your boss in a meeting because you really agree with him or her, or if you help someone for totally altruistic reasons, the behavior is not ingratiating. Of course, the boundary is quite fuzzy here, because people are not always aware of their true motives. You may consciously think that you really agree or that you are really being altruistic, whereas unconsciously you may want to ingratiate yourself. Many instances of ingratiation are unconscious, so ingratiation happens a lot more than one might think.

On the part of the target—the person being ingratiated—too, ingratiation is not always recognized as such. Whereas observers tend to quickly notice when ingratiation occurs (especially when a person behaves more favorably toward people he or she depends on than toward others), targets of ingratiation are less suspicious. Thus, the behavior is generally quite effective precisely with respect to the person for whom it is intended, the target. So, when you flatter a teacher or go out of your way to assist him or her, your fellow students who see this may immediately suspect your motives, but the teacher may simply appreciate your help or your excellent judgment of character and like you as a result.

One of the causes of this difference between observers and targets is that most people aim to have a positive view of themselves (the self-enhancement motive), and when they are ingratiated, this bolsters their self-esteem. This makes them feel good, even if they might not entirely trust the ingratiator's motives. Importantly, there is a difference between cognitive and affective responses to ingratiation. Cognitively, you may suspect someone's motives, especially if the person flatters you on qualities that you really do not have in your own view. Affectively, however, it feels good when someone is interested in you, likes you, supports you, and compliments you. Many people say that they do not care for this, but unconsciously all people like to feel good about themselves, and they feel good most of all when they feel valued by others.

As a consequence, the effects of ingratiation are generally as intended: The target likes the ingratiator and is more willing to do favors for the ingratiator. Thus, ingratiation can be a way to influence people. For instance, people buy more from someone who flatters them. So if you are fitting a shirt and the sales person compliments you on your figure and your excellent taste in clothes, you are more likely to buy the shirt, and maybe a whole lot more! In part, this happens because people like the person who ingratiates them. Also, being ingratiated enhances their mood, which in turn may affect their behavior in desired ways (e.g., spending more money, thinking "what the heck"). Another reason why ingratiation works is the reciprocity principle: If someone does something good for you, you want to do something in return.

A strong motive for ingratiation, then, is simply that a person can affect others' behavior with it. But there are other motives as well. For one thing, ingratiation is the lubricating oil of social traffic. If a waiter asks you how your meal was, or if a colleague inquires what you think of her new hairdo, you will probably say something nice even if you don't entirely mean it. Saying exactly what you think can make people feel awkward and uncomfortable. A related motive for ingratiation is that, if a person gets along well with people, they will like the person and respond favorably to him or her, which in turn is good for the person's self-esteem. In effect, then, ingratiation can be seen as a social skill.

As noted, targets of ingratiation typically like the ingratiator, and this happens even if the flattery is quite extreme. However, observers are in a different position, and they give quite harsh judgments of ingratiators. The strongest cue for detecting ingratiation is dependence: When a person is likeable toward someone with higher status or power, observers instantly become suspicious of the person's motives. At this point, their judgments are not yet quite negative because they cannot be certain: For all they know, the person might simply be very likeable. But once they notice that a person behaves less friendly toward those with less power, they immediately identify the person as a brownnoser and judge the person very negatively. In fact, a person who is likeable toward superiors and dislikable toward subordinates is judged just as negatively as someone who is dislikeable toward everybody. This effect is called the *Slime effect* because it was first reported in the Netherlands, where people are more wary of ingratiation than in the United States and where the common word for ingratiation is *slime.* Because likeable behavior toward more powerful people can easily be caused by ulterior motives, it is seen as utterly uninformative, so it does not carry any weight in impression formation. Of course, in everyday life, people with powerful positions typically do not see how their subordinates behave toward others, so the slimy subordinate may easily get away with it. Leaders in organizations usually have multiple subordinates whom they must pay attention to, so they cannot be expected to keep track of how everybody behaves toward everyone else. Also, they typically have high self-esteem, so when they are flattered excessively, this will simply confirm what they already know, and they are not likely to question the ingratiator's motives. Moreover, people generally attach more weight to how a person behaves toward them than toward others (hedonic relevance); this is another

reason why flattery toward powerful people will usually have the intended effect. As a result of all this, powerful people rarely get to hear the truth and may end up with a rather inflated and unrealistically favorable image of themselves.

Power and status are cues that can alert observers to the true motives of an ingratiator, but so can other cues related to dependence. For instance, a man helping a beautiful woman fix a flat tire may be suspected of ulterior motives. This situation, too, reflects a form of dependence. In dating settings, ingratiation is typically used to make people interested. It is in fact a much better idea to use ingratiation than other kinds of self-presentational strategies, such as self-promotion (showing people how capable and successful you are). The difference is that self-promotion is about oneself, whereas ingratiation is about the other person. The latter strategy is much more likely to get people interested in you, especially in settings in which it is important to be liked rather than admired. You can be exposed as an ingratiator if you use the same lines with different people. If a person discovers that you say the exact same nice things to someone else, that would be a sure way to instantly lose the credit you gained with the flattery.

The examples used here are prototypical instances of ingratiation, where the ingratiator is not sincere (e.g., buttering up the boss). It is important to realize that, in everyday life, there is a large fuzzy area between not saying exactly what you think (as in the example with the waiter or the bad hairdo, or when someone is telling you a story that is boring you to death) and blatantly deceiving people to accomplish your goals (as in the con man who pretends to be in love with the rich widow). If you think that the world would be a better place if people were totally honest with each other, think again—and try to practice this for a while! You will quickly realize the value of ingratiation in everyday social interaction. Most people do not know the truth as to what others really think of them, and they may actually be a lot less happier if they did.

Roos Vonk

See also Ingratiator's Dilemma; Self-Enhancement

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INGRATIATOR'S DILEMMA

Ingratiation and ulterior motives underlying friendly behavior are most easily detected when the ingratiator in some way is dependent upon the target. This can occur, for instance, when the ingratiator is a single man out to find a date, and the target is beautiful woman; or when the target is the ingratiator's teacher in school or supervisor at work, or is generally a powerful person in a company or in politics. Because such asymmetry in power makes it more likely that friendly behavior by the low-status person is seen as ingratiating, this presents the ingratiator with a dilemma: When it matters most, that is, when you depend very strongly on someone, ingratiation is most likely to backfire because people will easily see through your hidden agenda, and you lose your credibility.

Conversely, it is relatively easy for powerful people to ingratiate lower-status persons without being suspected of insincere motives. However, the incentives for doing so are also smaller, because high-status persons usually do not need favors from those with less power This dependence is probably underestimated by lower-status persons. Because ingratiation is less easily noticed in these cases, ingratiation by powerful people may actually go on a lot more than we think.

Ingratiators in low-status positions use several strategies to resolve the ingratiator's dilemma, that is, to make their efforts more credible when flattering someone they depend on. These have been described by Edward Jones in his seminal book on ingratiation, which appeared in 1964, and it seems the world has hardly changed since then. The first strategy is to build a power bank, by starting the flattery long before you need a favor from someone. By ingratiating yourself for a longer period, you build up credit, which you can later withdraw. Obviously, this is a lot more effective than walking up to your boss and saying, "Wow, you are such a great supervisor, and by the way, can I have the day off tomorrow?"

A second strategy around the ingratiator's dilemma is to find a setting where the power imbalance is less salient. For instance, people take their boss out to the pub or invite them to their house for dinner, thus creating a setting where it is not that obvious who is in charge and who is not.

Third, people sometimes obscure their behavior, for instance, by disagreeing with their supervisor on trivial matters. This way, they won't look as though they blindly follow and support their supervisor, and they convey the impression that they are independent.

Finally, it is a good idea to flatter someone via somebody else. For instance, it could be very strategic to tell the boss' secretary that you have never had a better supervisor than this one, and that you are happy to work very hard for this boss because he or she is inspiring the best of you. With a little luck, the secretary will tell your boss you said this, and your flattery will have a great deal of impact because you are not suspected of ulterior motives at all.

Roos Vonk

See also Impression Management; Ingratiation; Power

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INGROUP–OUTGROUP BIAS

Evidence of conflict and discrimination between groups is all around, which is not to say that this is inevitable, as many groups coexist peacefully most of

the time. Ingroup bias refers to a form of favoritism toward one's own group or derogation of another group. Many theories of intergroup relations in social psychology try to explain this phenomenon. Ingroups are groups to which a person belongs, and outgroups are groups to which a person does not belong (and which could therefore become target for ingroup bias). There is an almost infinite number of groups to which a person belongs, depending on how he or she categorizes the social world. Gender, ethnicity, occupation, economic and social position are all meaningful dimensions by which a person can define him- or herself and others in terms of ingroups and outgroups; this is a process of social (and self) categorization. Ingroup bias can take many forms and on many dimensions, both evaluative and behavioral. Evaluative ingroup bias refers to the rating of one's own group as better (more positive, less negative) on dimensions of judgment, and as such, it is closely related to the concept of prejudice. In behavioral terms, ingroup bias refers to the tendency to favor the ingroup over the outgroup in some way, for example, in terms of the allocation of resources or rewards: a form of discrimination. Outgroup bias—the tendency to favor the outgroup over the ingroup—is much less common than ingroup bias but by no means absent in intergroup relations.

One of the key objectives of research in intergroup relations has been to understand and explain evidence of ingroup bias in it various forms, as a necessary step to reduce and resolve intergroup discrimination. One obvious and recurring explanatory factor is self-interest: People may favor their own groups, and derogate outgroups, because it benefits them through resources or rewards. This is the basic idea behind the realistic group conflict theory, which explains such bias in terms of real conflicts of interests between groups that are competing with each other for scarce resources (e.g., land, jobs, status). This provides a straightforward and compelling explanation for many of the intergroup conflicts seen around the world, especially where resources are at stake.

However, research has also shown that conflicts of interests and self-interest motives may not even be necessary for ingroup bias to occur. The so-called minimal group studies show that people tend to favor their own group in terms of reward allocations even when they are categorized on a trivial basis (e.g., preference for painters, by a coin toss), such that they do not even know who is in the ingroup or the outgroup, and even when they do not meet them. This is true even when they do not allocate rewards to the group

as a whole (where they could benefit personally) but only individual members of the ingroup. One feature of these experiments was the development of reward matrices designed to measure different reward strategies. It was possible to distinguish between strategies that simply favored the ingroup (maximizing ingroup profit) from a form of discrimination that maximizes the difference in rewards given to ingroup and outgroup (i.e., even potentially at the cost of the absolute reward to the ingroup), which could be seen as genuinely more discriminatory. These experiments found evidence of this maximizing difference strategy. These findings led to the development of social identity theory, which aimed to explain why people might discriminate in favor of their group for more symbolic psychological reasons than because of mere self-interest. The explanation proposed for this was that such discrimination provides the group with a positive distinctiveness that can enhance the social identity and self-esteem of ingroup members.

However, the explanations for discrimination in minimal groups remain hotly contested. Some have argued that ingroup bias can be explained by self-interest after all, if it is assumed that there is an expectation of reciprocity of mutual reward among ingroup members. This still leaves open the question of why the ingroup should feel this ingroup reciprocity. Evolutionary arguments have been advanced, proposing that people may have good reasons to trust and reward those within their ingroup, who may in turn help them in the future. This may explain ingroup favoritism but may less easily explain evidence of maximum differentiation or outgroup derogation. More recently social identity theory has been extended by emotion theory to explain the more malicious forms of prejudice and discrimination toward outgroups and the different forms this may take, depending on the specific relations between the groups (e.g., depending on power, status relations). Clearly ingroup bias is not just a matter of rational self-interests but may also include more symbolic and emotional benefits to the group.

One weakness of the realistic conflict approach is that it seems to imply that ingroup bias should occur when there are conflicts of interest, and this is clearly not always the case. Although intergroup conflict is newsworthy, intergroup stability is more common despite pervasive differences in wealth status and other resources. Sometimes groups seem to accept their disadvantaged status and even show examples of outgroup bias. A good example of this is the classic doll

studies in which African American children presented with a Black or White doll to play with chose the White doll (at least in the early demonstrations), an apparent outgroup preference. Social identity theory is able to explain this because it only predicts conflict and social competition when the group relations are unstable and perceived as illegitimate (and thus insecure). After the civil rights movement, the doll studies no longer showed outgroup bias, indicating that African Americans no longer accepted their lower status as legitimate.

Russell Spears

See also Intergroup Relations; Realistic Group Conflict Theory; Social Identity Theory

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INOCULATION THEORY

Definition

Inoculation theory was devised by William McGuire in the early 1960s as a strategy to protect attitudes from change—to confer resistance to counterattitudinal influences, whether such influences take the form of direct attacks or sustained pressures.

Nature of Inoculation

Inoculation theory consists of two elements: threat and refutational preemption. The threat component of an inoculation treatment raises the possibility that a person may encounter persuasive challenges to existing attitudes. It is designed to get people to acknowledge the vulnerability of existing attitudes to potential change. Threat functions as the motivational catalyst to resistance. Once a person accepts that attitudes are vulnerable to change, they will expend the effort to strengthen attitudes. The refutational preemption component of an inoculation treatment raises—and then refutes—specific arguments contrary to attitudes. It is designed to provide the specific content that people can use to defend attitudes and to provide people with a model or script for how to defend attitudes.

Studies by McGuire in the 1960s proved, convincingly, that inoculation works. Subsequent studies by Michael Pfau indicated that inoculation works, in part, through the theorized mechanisms of threat and counterarguing, but also by eliciting anger, making attitudes more certain, rendering attitudes more accessible, and altering the structure of associative networks.

Evidence of threat's motivational role in resistance is found in the consistency of findings by McGuire and Pfau that *inoculation-same* and *inoculation-different treatments* are equally effective in conferring resistance to attacks. *Refutational-same* inoculation treatments cover the same counterarguments raised in later attacks, whereas different treatments employ counterarguments that are completely different than those raised in subsequent attacks. Because inoculation-different treatments feature unique content, effectiveness can not be attributed to the refutational-preemption component of the treatment; instead, it can only be explained by the threat component, which motivates people to bolster their attitudes. The power of inoculation stems from the fact that treatments spread a broad umbrella of protection—not just against specific counterarguments raised in subsequent treatments, but against all potential counterarguments.

Applications of Inoculation

Inoculation is an interesting and useful theory. Research during the past 20 years has revealed numerous real-world applications of inoculation theory. For example, studies indicate that it is possible to inoculate, for example, political supporters of a candidate in a campaign against the influence of an opponent's attack ads; citizens against the corrosive influence of soft-money-sponsored political attack ads on democratic values; citizens of fledgling democracies against the spiral of silence which can thwart the expression of minority views; commercial brands against the influence of competitors' comparative ads; corporations against the damage to credibility and image that can occur in crisis settings; and young adolescents against influences of peer pressure, which can lead to smoking, underage drinking, and other harmful behaviors.

Michael Pfau

See also Applied Social Psychology; Attitude Change; Persuasion; Resisting Persuasion

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INTEGRATIVE COMPLEXITY

Definition

Integrative complexity deals with how people process information. Some people may view things in simple terms (e.g., John is always introverted), and some may view them in more complex ways (e.g., whether John is introverted depends on how well he knows the people in the situation). More formally, level of complexity depends on two underlying variables:

1. the capacity and willingness to accept that there is more than one way to look at an issue and to acknowledge that these differing perspectives are all legitimate (differentiation), and

2. the ability to form conceptual links among these perspectives and to integrate them into a coherent overall judgment (integration).

Low differentiation implies lack of awareness or acceptance of alternative ways of looking at an issue. For example, a person who thinks of abortion as cold-blooded murder and thinks that those who believe it is a woman's right to choose are completely wrong would be considered cognitively simple. Only one way of looking at an issue is accepted as reasonable. Other alternatives are dismissed and viewed as illegitimate. It suggests a reliance on rigid decision rules for interpreting events and making choices. A more differentiated statement would recognize the legitimacy of looking at the same issue in different ways or along

different dimensions. For example, if a person was to accept that some people view abortion as an act of murder while others view it as a civil liberties issue concerning a woman's right to choose, he or she would be considered more complex. And yet, even though each point of view is considered valid, each is considered in isolation. No connections or links are made between the different perspectives. This response, therefore, indicates differentiation but not integration.

Indeed, differentiation is a necessary but not sufficient prerequisite for integration. That is, without acknowledging that there is more than one legitimate way to think about an issue, no connection between perspectives can be created. The complexity of integration depends on whether the person perceives the differentiated characteristics as existing in isolation (low integration), in simple interactions (moderate integration), or in multiple, contingent patterns (high integration). For example, statements reflecting moderate integration might specify why two contradictory views are both legitimate (e.g., whether abortion is viewed as murder or as a civil rights issue depends on one's view about when the developing organism within the mother becomes a human being). Importantly, complexity focuses on how people think and process information. It is concerned with cognitive structure. The content of people's thoughts is irrelevant.

Background and History

Originally, integrative complexity was viewed as a relatively stable personality trait. It was used to capture individual differences in styles of social thinking. Cognitively simple individuals were viewed as people who dislike ambiguity and dissonance and seek rapid cognitive closure in judging others and in making decisions. They form dichotomous (good vs. bad) impressions of people, events, and issues. In contrast, cognitively complex individuals adopt a more flexible, open-minded, and multidimensional view of the social world. They recognize that life has many inconsistencies and contradictions and realize that there is more then one side to every story when forming their impressions.

Empirical research focused on how to measure complexity and on how level of complexity affects behavior in various situations. Early efforts to measure complexity relied on the Paragraph Completion Test. This test presented participants with several sentence stems (i.e., topic sentences) that focused on issues such as

interpersonal conflict and relations to authority. Participants were asked to complete each stem and write at least one additional sentence. Two trained coders then assessed the responses on a 7-point complexity scale ranging from complete lack of differentiation to high-order integration. In the mid-1970s, researchers adapted this methodology to content-analyze archival data and free-response protocols that were not necessarily written for the purpose of complexity coding. As result, the range of research applications has expanded enormously. Researchers were able to analyze materials as varied as the diaries of historical figures, diplomatic communications, and Supreme Court decisions.

Early research on individual differences in integrative complexity proved fruitful. For example, studies found that integratively complex individuals tend to construct more accurate and balanced perceptions of other people, notice more aspects of the environment, use more information when making decisions, be more open to disconfirming information, and hold less extreme views than do cognitively simple individuals. They also tend to be less susceptible to information overload and prejudice, better able to resolve conflicts cooperatively, and more creative.

And yet, viewing complexity as a stable personality trait proved too confining. Researchers began to realize that level of complexity may not be as stable as once thought. Rather, it can also be affected by a variety of situational and environmental factors. Two lines of research emerged. One area of work focused on the impact of environmental stressors on the complexity of thinking. Some stressors, such as time pressure, information overload, and threat, were found to reduce level of complexity, whereas other stressors, such as moderately negative life events, were found to elevate complexity. A second line of research focused on the effects of value conflict, accountability demands, and audience characteristics on complexity. For example, it was shown that when confronted with a conflict between two values (e.g., social equality vs. economic efficiency), individuals who viewed both values as equally important resolved the conflict in more complex ways than did individuals who believed more strongly in one value than the other. This work also found that individuals could think in complex ways on certain topics but think in simple ways on others. By treating integrative complexity as a domain-specific and situation-specific construct, research was able to shed light on the conditions under which people can be motivated to think complexly as well as increase their

understanding of when complexity is likely to prove adaptive.

Is Complexity Good or Bad?

The most widely held view of integrative complexity appears to be "the more the better." Indeed, complex individuals have been found to be resistant to a number of judgmental biases. For example, they are more willing to change their initial impressions in the face of contradictory evidence, they are more likely to take into account situational constraints on individuals' behavior, and they are less likely to become overconfident in the correctness of their judgments and predictions. However, for each bias reduced due to complexity of thought, there is a different bias that may be exasperated. For example, complex individuals tend to get bogged down in insignificant details, rendering them less capable of making a decision and less willing to take risks. They are also more likely to choose a middle-of-the-road option not because it is truly preferable but simply because it is easier to justify and defend. Finally, they are also more likely to procrastinate, pass responsibility to others, or both, in the face of difficult decisions. Therefore, a more realistic view of complexity is that the situation will determine when it should be considered an asset and when a hindrance. It is also possible that individuals might be able to avoid the potential pitfalls of higher levels of integrative complexity if they cultivate an overarching capacity to switch between more complex and simpler ways of reasoning depending on what is more appropriate for a given situation.

Implications

The study of integrative complexity has increased researchers' understanding of a wide variety of issues in social psychology. Experimental research has concentrated on the effects of different information processing styles on social perception, attitude and attitude change, attribution, work performance, cross-cultural communication, and acculturation. Archival research has focused on issues such as the effects of social and political roles, predicting international crisis, and even the expected success and duration of leader careers.

Carmit T. Tadmor
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INTERDEPENDENCE THEORY

Definition

Interdependence theory describes the structural prop-
erties that characterize interactions and the implica-
tions of such structure for human psychology. Whereas
most psychological theories focus on the individual,
suggesting that people behave as they do because of
their unique experiences or cognitions or personali-
ties, interdependence theory regards the relationships
between people as important as the people themselves.
Thus, the theory represents a much-needed model of
the nature and implications of interdependence; it is a
truly *social* psychological theory.

Background and History

Harold Kelley and John Thibaut developed interdepen-
dence theory over the course of 4 decades, beginning
in the 1950s. Its initial formulation was contempora-
neous with early social exchange and game theories,
with which it shares some postulates. The theory ana-
lyzes interdependence structure, identifying crucial
properties of interactions and relationships, as well as
interdependence processes, explaining how structure
influences motivation and behavior.

Interdependence Structure

Interdependence theory presents a formal analysis of
the abstract properties of social situations. Rather than
examining concrete social elements such as "profes-
sor teaches student" or "man seduces woman," the
theory identifies abstract elements such as "depen-
dence is mutual" or "partners' interests conflict." Why
emphasize abstract properties? Although two situa-
tions may differ in concrete ways, they may share
abstract properties that cause people to think, feel, and
behave in predictable ways.

The basic unit of experience is an interaction: Each
of two or more people can enact any of two or more
behaviors. As a result, each person experiences good
versus poor outcomes, consequences that are more
versus less satisfying or pleasurable. All social situa-
tions can be described in terms of six structural
dimensions. Given that most situations are defined by
their properties with respect to two or more structural
properties, these dimensions are the building blocks of
interdependence structure.

Level of dependence describes the degree to which
an individual's outcomes are influenced by another's
actions. John is more dependent on Mary to the extent
that through her actions, Mary can cause John to expe-
rience good versus poor outcomes. He is independent
when her actions do not influence his well-being.
Thus, John's dependence on Mary is the converse of
her power over him—when John is more dependent,
Mary is more powerful.

Mutuality of dependence describes the degree to
which people are equally dependent. Mutual depen-
dence exists when Mary is as dependent on John as he
is on her. Unilateral dependence involves vulnerabili-
ty on the part of one person, in that the less dependent
person may behave as he or she wishes without con-
cern for the other's well-being. Mutuality constitutes
balance of power, yielding fewer opportunities for
exploitation and more congenial interaction.

Basis of dependence describes whether depen-
dence rests on partner control, where John's outcomes
are governed by Mary's unilateral actions, versus joint
control, where John's outcomes are governed by
John's and Mary's joint actions. Partner control is
absolute and externally controlled, in that John's out-
comes are entirely governed by Mary's behavior. Joint
control is contingent, in that John's outcomes rest
on coordination with Mary (e.g., if he can predict her

actions, he can modify his behavior and achieve good outcomes).

Covariation of interests describes the degree to which partners' outcomes correspond, whether events that benefit John are similarly beneficial for Mary. Covariation ranges from correspondent situations (what is good for John is good for Mary) through mixed motive situations to situations with conflicting interests (zero sum situations; i.e., what is good for John is bad for Mary). Interaction is simple when interests correspond: John can simply pursue his interests, knowing that this will also yield good outcomes for Mary. And interaction is simple when interests conflict: One person must lose if the other is to gain, so each person simply tries to win. Mixed motive situations are more complex, in that they involve a blend of cooperative and competitive motives, combining desire to benefit the other with temptation to exploit.

Temporal structure describes the fact that interactions are dynamic and evolve over time. Interaction must be understood not only in terms of the immediate outcomes produced by partners' choices, but also in terms of the future behaviors and outcomes that are made available (or eliminated) as a result of interaction. For example, John and Mary may make an extended series of investments to develop a committed relationship. Or by behaving in a particular manner today, they may create desirable future opportunities for themselves or proceed down a path where only poor outcomes are available.

Availability of information is the sixth structural dimension. John and Mary may possess adequate versus inadequate information about their own or the other's outcomes for various combinations of behavior ("How does Mary feel about marriage?"); a partner's motives ("Will Mary use her power benevolently?"); or future interaction possibilities ("If we do this today, where will it take us?"). Inadequate information gives rise to ambiguity and misunderstanding, challenging the flow of interaction.

Interdependence Processes

Affordance describes what a situation makes possible or may activate in interaction partners. Specific situations present people with specific problems and opportunities and therefore logically imply the relevance of specific motives and permit the expression of those motives. For example, situations with conflicting interests afford the expression of self-centeredness versus concern with another's well-being: John can behave in such a manner as to yield good outcomes for him or for Mary, but not for both. Therefore, conflicting interests inspire predictable sorts of cognition (greed, fear) and invite predictable forms of attribution and self-presentation ("Does Mary care about me?" "Trust me!").

People do not always react to situations in ways that maximize their immediate outcomes. *Transformation* is the psychological process whereby people set aside their immediate, gut-level desires and instead react to a situation on the basis of broader considerations, including the well-being of others, long-term goals, or stable personal values. The transformation process may rest on systematic thought or automatic habits. It is through the transformation process that people reveal their social selves—motives deriving from the fact that people sometimes have a past and a future with interaction partners.

Through *attribution processes,* people attempt to uncover the implications of another's actions; for example, Mary may try to discern whether John's behavior is attributable to the situation (desire for good immediate outcomes) or to John's transformation of the situation (intent to sacrifice his interests so as to give her good outcomes). In like manner, through self-presentation, people attempt to communicate the implications of their own actions; for example, John may try to communicate that in a given situation it is in his interest to behave selfishly, yet he has sacrificed so as to benefit Mary. People cannot communicate or discern all motives in all situations, in that specific motives are relevant to specific types of situations. For example, in situations with perfectly corresponding interests, John cannot display trustworthiness; if he behaves in ways that benefit Mary, he is likewise benefited, such that it is impossible to determine whether he is driven by self-interest or prosocial motives.

Where do the motives that guide the transformation process come from? People initially react to situations as unique problems. In a novel situation, John may carefully analyze circumstances or react impulsively. Either way, he acquires experience: If his reaction yields poor outcomes, he will behave differently in future situations with parallel structure; if his reaction yields good outcomes, he will react similarly in future, parallel situations. Repeated experience in situations with similar structure gives rise to stable transformation tendencies

that on average yield good outcomes. Stable adaptations may reside within persons, relationships, or groups.

Interpersonal dispositions are actor-specific inclinations to respond to specific situations in a specific manner across numerous partners. Over the course of development, different people undergo different experiences with family members and confront different opportunities with peers. As a result, people acquire dispositions to perceive situations in specific ways, to anticipate specific motives from others, and to transform situations in predictable ways. For example, a child who encounters unresponsive caregiving may develop fearful expectations about dependence and therefore avoid situations in which she must rely on others. Thus, the interpersonal self is the sum of one's adaptations to previous interdependence problems.

Relationship-specific motives are inclinations to respond to specific situations in a specific manner with a specific partner. For example, trust reflects an individual's confidence in a partner's benevolence. Mary develops trust when John behaves prosocially by departing from his immediate interests to enhance her outcomes. His actions communicate responsiveness to her needs, thereby promoting Mary's trust in his motives, increasing her comfort with dependence, strengthening her commitment, and enhancing the odds of reciprocal benevolence.

Social norms are rule-based, socially transmitted inclinations to respond to particular situations in a specific manner. For example, societies develop rules regarding the expression of anger; such rules help groups avoid the chaos that would ensue if people were to freely express hostility. Likewise, rules of etiquette represent efficient solutions to interdependence dilemmas, regulating behavior in such a manner as to yield harmonious interaction. Sometimes behavior is influenced by societal-level norms; dyads may also develop relationship-specific norms.

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See also Altruism; Close Relationships; Cooperation; Discontinuity Effect; Prosocial Behavior; Reciprocity Norm; Social Dilemmas; Social Exchange Theory; Social Power; Social Value Orientation; Trust

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INTERDEPENDENT SELF-CONSTRUALS

Definition

Self-construal refers to the way in which a person thinks about and defines the self. Importantly, self-construal is not only a way of viewing oneself but also a way of understanding one's relationship to the larger social world. When people are construing or thinking about themselves in an interdependent way, they are likely to think first and foremost about their roles in relationships (e.g., "I'm Nancy's best friend" or "I'm the youngest son in my family") and their important group memberships (e.g., "I'm a sorority sister" or "I'm an Asian American"). An interdependent self-construal, because of its emphasis on relationships and groups, is thus one in which the self is seen as fundamentally embedded in the larger social world. Interestingly, thinking of the self in this relatively social way has been shown to influence a wide range of values, emotions, and social behavior.

Background

Interdependent self-construals were first explored primarily in terms of cultural differences, because it was found that members of East Asian and Latin American cultures were much more likely to think of the self in an interdependent way than were North Americans, and it was thought that this social way of construing the self could potentially explain some well-known cultural differences. For example, an interdependent self-construal is very common in Japanese, Korean, and Indian cultures, and it was thought that this might explain why members of these cultures place a higher value on belonging, emphasize social obligations, and are more likely to view the causes of other people's behavior as rooted in the social situations they faced rather than in terms of being driven by their individual personalities.

Of course, to say that interdependent self-construal is a causal factor in these cultural differences, one would need to be able to look at the effects of self-construal apart from culture. Fortunately, the capacity to construe the self as interdependent is not limited by

one's cultural upbringing. Everyone, regardless of cultural background, sometimes construes the self interdependently. Indeed, anytime one views the self as part of a "we" instead of only a "me," this represents an interdependent construal. For example, when individuals are playing a team sport or spending time with their family, they are more likely to construe the self as interdependent. From this, researchers found that there were ways to study the effects of self-construal directly, by encouraging people to construe the self in a more or less interdependent fashion before they engaged in other tasks. Because the effects of experimentally manipulated self-construal were often found to be very similar to cultural differences, researchers who study self-construal can now do so in a variety of ways: Some look at members of East Asian cultures, who maintain relatively interdependent self-construals; some experimentally prime or activate interdependent self-construal; and some use personality scales to look at individual differences in interdependent self-construal. The effects of interdependent self-construal that are reviewed in this entry have been discovered using all of these methods.

Values, Emotions, and Social Behavior

When people construe the self as interdependent, it increases the importance of social connections and maintaining harmony with others. Values like belonging, friendship, family safety, and national security take precedence, and interdependent people become significantly less tolerant of others who break social norms or fail to live up to social obligations.

Certain emotions are also more likely to be experienced by those with an interdependent self-construal. Because of the increased importance of social obligations, people with a more interdependent self-construal judge the self through others' eyes; thus, some negative emotions that are experienced when one disappoints another person or fails to live up to social standards (e.g., anxiety, guilt, and shame) are experienced more frequently and intensely for those with interdependent construals. However, interdependence has emotional benefits as well as costs. For example, more ego-focused emotions, such as anger, are less likely to be experienced. Finally, when people view the self as interdependent, they take greater pleasure and pride in the accomplishments of close others and groups, and so in some ways, they have more opportunities for happiness than if limited to taking pleasure in individual accomplishments alone.

In terms of social behavior, maintaining a more interdependent self-construal appears to benefit society at large. People are more cooperative than competitive, work harder at group endeavors, and are better at resolving social dilemmas when they are construing the self as interdependent. They are also more likely to put the good of a relationship partner or social group above their own desires; thus, in many ways it appears that interdependent construal leads to less selfish behavior. However, the benefits of interdependence only extend to those relationships and groups that are incorporated as part of the self; interdependence has also been associated with greater prejudice toward outgroups. Thus, the prosocial behaviors that are seen in interdependent people may actually be equally selfish; the self has simply been broadened to encompass one's own relationships and groups.

Gender Differences

A powerful stereotype in American society is that women are more social than men. It is thus perhaps not surprising that psychologists originally expected women to be more likely to construe the self in a social fashion as well. However, research has revealed that men and women are equally likely to maintain an interdependent self-construal. Gender differences do exist, but it is in the type of interdependence, rather than in the extent of interdependence. Recall that interdependence may be based on both roles in close relationships and memberships in social groups. Women appear to place greater emphasis on the relational aspects of interdependence, whereas men place greater emphasis on the collective or group-based aspects of interdependence. In other words, women define the self with more close relationships, experience more emotional intensity in close relationships, and are more willing to sacrifice for a close other when compared to men. Conversely, men define the self with more group memberships, experience more emotional intensity in group contexts, and are more willing to sacrifice for their groups when compared to women. However, despite these minor differences in emphasizing one type of social connection over another, interdependent self-construals appear to be equally prevalent and powerful for both sexes, understandable when one considers the profound importance of social connections for all humans.

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INTERGROUP ANXIETY

Definition

People often feel uncomfortable when interacting with others who belong to a different social group than they do. *Intergroup anxiety* is the term used to describe this discomfort. When interacting with members of a different social group (called an *outgroup*), people often anticipate a variety of negative outcomes, such as being taken advantage of or rejected. In extreme cases, they may be concerned that outgroup members will physically harm them. They may also worry that members of their own group (called the ingroup) will disapprove of interactions with outgroup members. Intergroup anxiety can arise in relations between almost any two groups, from racial and ethnic groups to different political parties.

Origins

Research on intergroup anxiety indicates that it has its origins in the past relations between the groups. If the past relations have been characterized by conflict, people will naturally be anxious about interacting with members of the outgroup. If there are substantial differences in status between the two groups, this disparity can also arouse anxiety. Members of low-status groups have reason to fear being rejected and exploited by members of high-status groups. Members of high-status groups may also feel anxious, either because they are concerned about the resentment that might be directed at them or because they feel guilty about the ways their own group has treated the other group in the past. Another factor that has been found to increase intergroup anxiety is strong identification with one's ingroup. People who strongly identify with their ingroup typically consider outgroups to be inferior, an attitude that is sometimes referred to as *ethnocentrism*. Ethnocentrism leads to anxiety concerning interaction with outgroup members because of the disdain ingroup members have for them. In addition, being ignorant of the outgroup and its norms, beliefs, and behaviors can also lead to intergroup anxiety. For example, when people interact with individuals from another culture, about which their knowledge is limited, they commonly feel anxious. Although a simple lack of personal contact with an outgroup can cause intergroup anxiety, past negative personal contact is an even more potent cause of intergroup anxiety.

Effects

Intergroup anxiety can lead to a number of negative consequences. The most frequently studied effects of intergroup anxiety are prejudice toward the outgroup and an unwillingness to interact with outgroup members. These effects have been found for attitudes between a wide variety of groups including Blacks and Whites, Mexicans and Americans, Europeans and immigrants to Europe, Native Canadians and Canadians of English origin, heterosexuals and gays, people with HIV/AIDS or cancer and those who do not have these diseases, and women and men, among others. Put simply, people do not like others who make them feel anxious. Moreover, the negative evaluations of outgroups created by intergroup anxiety can extend to social policies that are perceived to favor outgroups, such as affirmative action. When intergroup anxiety escalates to feeling threatened by an outgroup, people experience fear and anger, which have further detrimental effects on intergroup relations. This type of anxiety also causes people to rely on established patterns of thought, such as stereotypes. Stereotypes consist of the predominantly

negative characteristics attributed to particular outgroups. Intergroup anxiety may also cause people to perceive outgroups to be homogeneous; that is, the members of these groups are all thought to be the same. In addition, intergroup anxiety may interfere with the ability to perform complex cognitive reasoning tasks. One of the most intriguing effects of intergroup anxiety is that it can lead to exaggerated behaviors toward outgroup members. In most cases, this means people respond to outgroup members more negatively than ingroup members, but intergroup anxiety can also lead to exaggerated positive behaviors if people are concerned that acting in negative ways may lead others to perceive them as being prejudiced.

Because intergroup anxiety has such negative effects on intergroup relations, it is important to take steps to reduce it. Intergroup anxiety can be reduced when people feel empathy toward members of the outgroup. Also, certain types of intergroup contact can reduce intergroup anxiety. To reduce this anxiety, the contact should be among people equal in status, it should be focused on the individuals involved rather than their group memberships, it should involve cooperation, and it should have the support of relevant authority figures. Programs that have been created specifically to improve intergroup relations, such as those emphasizing cooperative learning and structured intergroup dialogues, can be effective as a means of reducing intergroup anxiety. In instances where there has been long-standing conflict, such as between racial, national, or cultural groups, the mass media can also play a positive role by providing information about outgroups that reduces ignorance and emphasizes the common humanity and common goals shared by the groups. And, of course, individuals who are aware that others may be subject to feeling intergroup anxiety can take steps to put outgroup members at ease during intergroup interactions.

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See also Ethnocentrism; Ingroup–Outgroup Bias

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INTERGROUP EMOTIONS

Definition

Intergroup emotions refer to the specific emotional reactions that people feel toward a social group and its members. Intergroup emotions are closely related to the concept of prejudice. Both intergroup emotions and prejudice involve individuals' feelings about social groups to which they do not belong; however, these two terms differ in the level of detail used to characterize people's feelings toward groups. Prejudice generally refers to one's overall general feeling (e.g., favorable vs. unfavorable) toward a social group, whereas intergroup emotions generally refer to one's specific feelings (e.g., respect, anger, guilt) toward a social group. Compared to general prejudice, then, a focus on intergroup emotions often reveals a more complex and differentiated picture of how individuals feel about social groups.

Variations in Intergroup Emotions

Intergroup emotions take many forms, varying in both the nature of the specific emotional reaction and the kind of social group that evokes the emotional reaction. First, people can experience qualitatively different types of specific feelings toward a social group. For example, when contemplating a particular group, an individual may feel specific emotions that are mainly positive, such as respect, gratitude, or joy. Alternatively, when thinking about the same group, this individual may feel specific emotions that are mainly negative, such as fear, anger, or guilt. And very often, an individual experiences *both* positive and negative specific emotions toward the members of a particular group.

In addition, people can experience these specific feelings toward the members of qualitatively different types of social groups. That is, people may feel intergroup emotions toward individuals belonging to social groups defined by a wide range of characteristics, such as ethnicity (e.g., Asian Americans), nationality (e.g., Germans), age (e.g., elderly people), religion (e.g., Muslims), sexual orientation (e.g., gay men), personal values and beliefs (e.g., members of the National Rifle Association), and profession (e.g., lawyers).

Antecedents and Consequences of Intergroup Emotions

Fundamentally, intergroup emotions emerge from the psychological distinctions people tend to make between their own groups and other groups. That is, to feel specific emotions toward a group, an individual must see oneself as a member of a particular social group (e.g., Americans) and see others as members of a different social group (e.g., Japanese). Once these lines are drawn, intergroup emotions can then arise from subjective assessments of the relationship between one's own group and this other group. For example, if a man believes he and his fellow group members are competing for jobs with the members of another group, then he may experience anger or envy toward the members of this other social group.

These assessments and the resultant intergroup emotions often play important roles in the social interactions between individuals belonging to different groups. More precisely, different specific emotional reactions should prompt different behavioral reactions. For example, anger toward members of a social group may stimulate an individual to behave aggressively toward members of this group, whereas respect toward members of a social group may stimulate an individual to pursue mutually beneficial interactions with members of this group.

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See also Ingroup–Outgroup Bias; Intergroup Anxiety; Prejudice

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INTERGROUP RELATIONS

Social psychological research on intergroup relations concerns the perceptions, attitudes, and behaviors humans express when they think of themselves and others as members of social groups. All humans belong to many different types of social groups, ranging from smaller groupings of people (such as one's circles of friends) to larger social categories (such as gender and race). When people think and act as group members, they tend to accentuate similarities between themselves and members of their own groups, and exaggerate differences between members of their own group and other groups (social categorization). People also tend to evaluate people differently depending on whether they are members of one's own groups (ingroup members) or members of other groups (outgroup members); specifically, people typically show a preference for members of their own groups, such that they evaluate them more positively and make more positive attributions for their behaviors, as compared to how they evaluate outgroup members (this tendency is called ingroup favoritism).

Many factors can affect whether people will be inclined to think of themselves and others as individuals or as members of social groups. Some of these factors involve features of the social situation, the broader social context, or both. For example, long-standing histories of tension and conflict between groups, whether based in competition over resources or contrasting beliefs, can compel people to view themselves and others in terms of group membership. Even in the absence of such conflicts, merely perceiving that certain people are more similar to each other than others can lead people to categorize themselves and other people as members of distinct groups; these perceptions can be enhanced further depending on how strongly people appear to represent the characteristics that define their groups (prototypicality), how similar members of each group appear to be to each other (homogeneity), and how many members of each group are present in the immediate social situation (numerical representation). In addition, other factors that lead people to think of themselves and others as group members involve the characteristics and accumulated social experiences people bring to new social situations and contexts. For example, people who identify strongly with their groups, or who are often stigmatized or rejected because of their group membership, might be especially likely to perceive their interactions with others in terms of their identities as group members.

People often try to discern whether other people perceive them as individuals or as group members, so that they know what to expect in interactions with them. Generally, when people think they are being viewed as group members, they expect that outgroup members will evaluate them negatively and think of

them in terms of the negative stereotypes associated with their groups. Still, sometimes social situations can be ambiguous, such that people feel unsure about how they are being seen by outgroup members and whether the outgroup members' evaluations of them reflect who they are as individuals or as group members (attributional ambiguity).

Whether because of the anticipation of negative evaluations or uncertainty about how they will be perceived, people often feel anxious about interactions with outgroup members. In part, anxieties about cross-group interactions can motivate people to avoid them, thereby making interactions between groups less likely to occur. Still, when these interactions do occur, anxieties can have a negative impact on how members of different groups interact with each other, which curbs the potential for achieving positive relations between their groups. For example, when people feel anxious in cross-group interactions, they tend to act in less spontaneous and relaxed ways; not only may such negative behaviors make cross-group interactions unpleasant, but they may also be interpreted as signs of prejudice by members of the other group. In addition, feeling anxious can make it harder for people to attend to personalized information about outgroup members, thereby leading them to rely more heavily on stereotypes as they interact with members of other groups.

Given these tendencies, a great deal of research on intergroup relations has sought to identify strategies that can be used to improve relations between groups. Much of this work has focused on how to structure conditions of the social situation so that contact between groups will lead to positive intergroup outcomes, such as establishing equal status between groups, showing that their interactions are supported by institutional authorities, and having them work together cooperatively toward common goals. Researchers have also debated about the extent to which group differences should be emphasized when members of different groups interact with each other. Integrating distinct approaches, recent theorizing suggests that people should initially de-emphasize group differences when members of different groups interact—by focusing on either personal characteristics or group memberships they share in common—so that they can develop relationships beyond the confines of their distinct group memberships. Once these relationships are established, group distinctions should then be emphasized so that any positive effects of their relationships would be likely to translate into more positive attitudes toward all members of their groups. Developing close relationships across group boundaries can also be effective in reducing anxiety about future cross-group interactions and encouraging people to look beyond their own interests and express more concern for the welfare of members of other groups.

Linda Tropp

See also Attributional Ambiguity; Ingroup–Outgroup Bias

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INTERPERSONAL ATTRACTION PROCESSES

See ATTRACTION

INTERPERSONAL COGNITION

Definition

Interpersonal cognition is the set of mental processes by which people think about their interactions and relationships with others. Research in the area of interpersonal cognition aims to understand how people perceive the many layers of information present in social interactions and how they process this information and

store it in memory. A major goal of this research is to understand how people's thoughts, feelings, and behavior in social interactions are influenced by expectations based on past interactions. In particular, researchers often consider the idea that how people think about themselves is influenced by the relationships that they have with others.

Background and History

Interpersonal cognition research grew rapidly in the 1990s, as researchers expanded their view of social cognition beyond looking at social objects in isolation and acknowledged the importance of considering interpersonal experiences. That is, whereas the broader area of social cognition looks at how social information about self and about others is dealt with, interpersonal cognition research considers that complex patterns of interaction between self and others are also perceived, processed, stored, and recalled. A person might come to believe that trusting others makes that person likely to be taken advantage of, for example, or that treating others with respect leads them to respond warmly in return. This expectancy might influence the kinds of information the person pays attention to in new interactions, the kinds of inferences he or she draws about other people's behavior, and the kinds of memories the person stores to draw on in the future.

Thought processes about interpersonal interaction are strongly linked with motivation and emotion. It has been argued, for example, that through evolution humans have developed a powerful need to belong. Thus, people are motivated to assess, process, and encode their interpersonal encounters in terms of whether they are being rejected or accepted. Perceptions of rejection can trigger powerful negative emotions, such as shame, anxiety, and sadness. Other motives, including desires to be respected, admired, or feared, can trigger other emotions as well.

Measuring Interpersonal Cognition

Assessing interpersonal cognition is done in two primary ways: explicitly and implicitly. An explicit measure of interpersonal cognition relies on a person reporting how he or she feels about his or her social interactions. For example, measures of attachment ask people about how they feel in a romantic relationship (e.g., "When romantic partners disapprove of me, I feel really bad about myself"). On the other hand,

implicitly measuring variables associated with interpersonal cognition allows researchers to tap into thoughts and feelings that a person might not be aware of. For example, a lexical decision task can measure people's automatic cognitive associations between failure and rejection, and success and acceptance. In this task, participants classify letter-strings that appear on a computer screen as either a word or not a word. If a person is faster to identify a rejection-related word (e.g., *disliked*) right after seeing a failure-related word (e.g., *mistake*), this can be taken as evidence that the person holds a cognitive association between failure and rejection. Studies have shown that associations of this kind give rise to an interpersonal script, which usually takes the form of an "if-then" contingency. For example, people with low self-esteem are most likely to show the expectancy that "If I fail, then I will be rejected (by others)" and also to show a general sensitivity to social rejection.

Many researchers have explored the effect of past interpersonal experiences on current interpersonal expectancies. For example, a person may act or respond differently depending on whether he or she is interacting with a close friend versus a romantic partner versus a person in authority, because the person has learned specific expectancies and scripts about how interactions will likely proceed. A common method used to tap into this phenomenon is *priming*. Priming research involves presenting a participant with a cue that activates a construct in memory and subsequently influences behavior. For example, having a person visualize a person who "will accept you, no matter what," activates a sense of social acceptance and leads to less critical thoughts following a difficult task.

Relational Selves and Attachment

In theoretical terms, the type of research described in the previous section, common in the domain of interpersonal cognition, explores the mental representation of the self in relation to others (e.g., romantic partner, friend), which gives rise to *relational selves*. The idea here is that people do not have a single, unified self-concept but rather have a series of relational selves in memory, each linked to specific significant others. Furthermore, people tend to act the same way around similar types of people. For example, meeting a person who is reminiscent of one's father is likely to activate the relational self experienced with one's father, leading to expressions of behavior and expectations of how the other person will act. Other research has found that

people often incorporate knowledge about an "other" into knowledge about the self. This can be described as a shared resources type of knowledge, where a person relies on and draws from shared knowledge, perspectives, and resources to determine whether or not a goal can be achieved (e.g., "I can do this because my partner will show me how").

An important topic studied by interpersonal cognition researchers is people's general attitude toward close relationships with others, in other words, their *attachment style*. Repeated positive and supportive interactions with significant others leads to more positive appraisals of stressful situations, a stronger belief that life's problems are manageable, and more positive beliefs in the good intentions of others. Furthermore, positive social interactions with significant others leads to a greater sense of one's own self-worth, competence, and mastery. Being valued, loved, and cared for by a significant other leads to the belief that one is a valuable, loveable, and special person.

Implications

Because interpersonal cognition is closely tied to motivation and emotion, people's thoughts are often shaped by their wishes and fears. In the domain of romantic relationships, research has found that people tend to engage in positive illusions and biases to maintain a committed relationship. Furthermore, a person's decision on how much to trust an intimate partner is reflected in self-protective strategies (e.g., aggressing against the partner in reaction to perceived rejection) and is shaped by a person's confidence about their partner's love and acceptance.

Social interactions are an integral component of human life and have a large effect on people's thoughts, feelings, and behaviors. Interpersonal cognition defines how these interactions are mentally processed and encoded and explores how these representations influence one's expectations about, and behavior in, future social interactions.

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See also Attachment Styles; Priming; Social Cognition

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INTIMACY

Definition

Per social psychologists, intimacy refers to a process of interaction in which social partners, as a result of sharing personal and private thoughts and feelings, come to feel understood, appreciated, and cared for by each other. This definition is deliberately narrower than the many common language usages of this term. In everyday language, *intimate* and *intimacy* are often used as synonyms for closeness, sexual activity, love, marriage, privacy, or relatively intense forms of physical engagement (such as touching or standing very close to another person). When intimacy exists, each of these may or may not be involved. Consequently, and to eliminate confusion, researchers prefer to rely on the more precise definition.

Intimacy and Relationships

Intimacy is widely regarded as one of the key processes governing close relationships. Extensive theory and research indicate that the most gratifying close relationships are those characterized by a mutual sense of understanding, appreciation, and caring. Not coincidentally, people whose social networks possess high levels of intimacy tend to be happier and healthier, whereas the absence of intimacy tends to be associated with loneliness and other forms of emotional distress, and may even lead to the deterioration of health. The association between intimacy and emotional well-being is so fundamental that many theorists describe the capacity for participating in intimate relationships as a principle feature of successful personality development and maturity.

What characterizes the development of intimacy in a close relationship? The process typically begins with one person's self-disclosure of self-relevant material, which involves both words and the nonverbal cues accompanying them. The potential for fostering intimacy is greater when this material is personal, private (in the sense that one is highly selective about revealing it), and affective (concerned with feelings or capable of creating a significant emotional response). Nonverbal cues may contribute to intimacy by indicating the sender's affective state (e.g., a sad expression), by altering the meaning of words (e.g., a sarcastic smirk paired with a positive statement), or by regulating immediacy (e.g., leaning closer to or away from one's partner).

Of comparable significance to the unfolding of the intimacy process is the partner's response. Supportive responses encourage the growth of intimacy, whereas disinterested or critical responses are likely to inhibit its development. Partner responses provide signals (again involving both verbal and nonverbal content) that the self-discloser uses to infer whether the partner has understood the personal meaning of whatever was communicated, whether the partner values and appreciates the self-discloser, and whether the partner can be trusted to be caring. Of course, in the real-time ebb and flow of conversation, these exchanges are rapid, spontaneous, and complex, suggesting that there is considerable subjectivity in how self-disclosures and responses are interpreted. A large body of research has established that both the objective properties of these behaviors and the individual's idiosyncratic interpretations of the behaviors are influential.

Another important consideration is that the intimacy process is both recursive and reciprocal. That is, as each partner comes to trust the other's response to his or her self-revelations, each becomes increasingly willing to disclose personal thoughts and feelings to the partner. Typically, disclosers and responders swap roles back and forth, often repeatedly in the same conversation. An individual's experience as responder usually affects his or her subsequent willingness to be open with his or her own thoughts and feelings; similarly, each partner's perception of the other's responsiveness is likely to affect his or her own willingness to be responsive in turn to the partner. These principles illustrate the fundamentally interactive and interdependent nature of intimacy.

Individual Differences and Intimacy

Ever since Erik Erikson, one of the most influential psychoanalytic psychologists of the 20th century, described the successful attainment of a primary intimate relationship as the fundamental life task of early adulthood, researchers have been interested in identifying factors that predispose some people to achieve higher levels of intimacy in their close relationships and others lower levels. This research demonstrates that many factors contribute to an individual's preferences and capabilities with regard to intimacy.

No other variable has been studied as extensively as has a person's biological sex. A general conclusion from these many studies is that women's social lives tend to exhibit higher levels of intimacy than men's do, and that this difference is greater in same-sex friendships than in other types of relationships (e.g., heterosexual romantic relationships, marriages). Although some researchers see this difference as mainly being the result of biological differences between men and women, evidence for this position is sparse and in fact contradicted by certain studies: For example, studies showing that same-sex friendships in non-Western cultures tend to find small, if any, sex differences in intimacy. The best supported conclusion appears to be the developmental one: that in Western culture, men learn to be more reluctant about the vulnerabilities inherent in intimate interaction.

Another important avenue for research has viewed intimacy as a motive, emphasizing determinants from personality (including both genetically determined and learned qualities) and from past experiences in close relationships. For example, self-esteem, openness, comfort with closeness, empathic concern for others, trust, extraversion, parental warmth, and prior intimacy tend to be associated with higher levels of intimacy and intimacy motivation, whereas social anxiety, fears about exploitation, vulnerability, dependence, social avoidance, conflict and distance with parents, and prior dysfunctional relationships tend to be associated with lower levels of intimacy and intimacy motivation. Regardless of differences in motivation, intimacy is known to be an essential component of social life and, more broadly, human experience.

Harry T. Reis

See also Close Relationships; Emotion; Nonverbal Cues and Communication; Self-Disclosure; Social Anxiety

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INTIMATE PARTNER VIOLENCE

Definition

Intimate partner violence refers to the intentional use of aggressive behaviors that are enacted with the immediate goal of causing physical pain to an intimate partner.

If the pain is caused accidentally (e.g., by inadvertently shutting a door on the partner's fingers), it does not qualify as intimate partner violence. This entry focuses specifically on physical violence in romantic relationships; it does not address psychological aggression.

Virtually all intimate partner violence is instrumental, in that the partner's pain is a means to an end rather than an end in itself. Regardless of whether violence is motivated by the desire to control the partner's behavior in the argument at hand, to gain justice or retribution, or to defend one's self-image, it typically is not random or sadistic. As such, intimate partner violence is best conceptualized as a (conscious or nonconscious) goal-directed social influence tactic, albeit an extreme one with deeply disturbing consequences for victims.

Frequency

Physical violence is perpetrated against romantic partners with alarming frequency. According to a nationally representative survey conducted in 1985, for example, 16.1% of married couples in the United States experienced an incident of violence during the previous year. When the definition of violence is limited to include only *severe* violence perpetration (e.g., kicking, beating up, using a knife or gun), incidence remains high at 6.3%. Moreover, intimate partner violence is not limited to married couples; evidence suggests that perpetration rates might be even higher among unmarried dating couples.

Two Types of Intimate Partner Violence

Until the mid-1990s, researchers investigating intimate partner violence in heterosexual romantic relationships found themselves embroiled in a heated controversy over whether such behavior is best characterized as (a) a phenomenon in which men batter women in the interest of exerting control or dominance or (b) a gender-neutral phenomenon in which men or women sometimes become aggressive toward their partner during heated conflict. Although this controversy is far from resolved, researchers have recently brought some coherence to the literature by developing typologies to distinguish between qualitatively distinct categories of intimate partner violence.

One prominent typology suggests that there are two types of intimate partner violence in Western countries: intimate terrorism and situational couple violence. Intimate terrorism (or patriarchal terrorism) is argued to be a product of cultural traditions that bequeath to men the right to control "their" women, with violence serving to exert and maintain control. In couples characterized by intimate terrorism, violence tends to (a) be perpetrated predominantly by men, (b) occur chronically, (c) increase in severity over time, and (d) be unidirectional (i.e., the victim typically does not fight back). In contrast, situational couple violence (or common couple violence) is a nonescalating and frequently bidirectional form of physical violence that arises occasionally when conflictual situations get out of hand. Unlike intimate terrorism, there do not appear to be substantial gender differences in the likelihood of perpetrating situational couple violence. Nonetheless, female victims are more likely to be injured or killed, in part because of males' greater physical strength.

The causal mechanisms underlying intimate terrorism relate to psychopathology and patriarchal socialization practices, topics that have been systematically studied in disciplines (e.g., clinical psychology, sociology) other than social psychology. After all, social psychologists typically investigate social dynamics in normal (nondeviant) populations. The causal mechanisms underlying situational couple violence, in contrast, relate to interpersonal conflict, impulsiveness, and behavioral restraint, topics that fall squarely in the domain of social psychology. The remainder of this entry focuses on social psychological research relevant to understanding the perpetration of situational couple violence.

Conceptual Analysis of Situational Couple Violence

Researchers must ask three general questions regarding a given interaction between romantic partners to determine whether situational couple violence is likely to transpire. First, are the partners experiencing conflict with one another? Second, does either partner experience impulses toward intimate partner violence as a result of this conflict? And third, does that person exhibit weak behavioral restraint?

Many scholars have concluded that conflict is inevitable in romantic relationships. Jacob may speak disrespectfully toward Monica when he is trying to quit smoking, or Monica might become jealous when Jacob goes out for dinner with his ex-girlfriend, interrogating him aggressively upon his return. Each of these behaviors may cause the partner to become irritated and may ultimately ignite relationship conflict.

Although experiencing relationship conflict may be inevitable in romantic relationships, intimate partner violence as a tactic for dealing with this conflict is not.

Relationship conflict typically does not cause partners to experience violent impulses. Such impulses, however, are not unheard of, and certain risk factors render them more likely. Factors that increase the likelihood that the experience of conflict leads a given partner to experience violent impulses include features of the immediate situation (e.g., experiencing anger or humiliation), the relationship (e.g., relationship commitment, power/control dynamics), the potential perpetrator's personality (e.g., dispositional hostility or narcissism), and the potential perpetrator's background characteristics (e.g., exposure to parental violence).

Even if partners experience violent impulses in response to relationship conflict, they will only act on these impulses if they exhibit weak behavioral restraint (or if they believe that intimate partner violence is acceptable, which is relatively rare in situational couple violence). Factors that increase the likelihood that experiencing violent impulses will lead to violent behavior include features of the immediate situation (e.g., impulsiveness, alcohol consumption, experiencing life stressors) and of the potential perpetrator's personality (e.g., low self-control, belief that violence is acceptable).

Eli J. Finkel

See also Aggression; Anger; Close Relationships; Frustration–Aggression Hypothesis

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Intimidation

See Self-Presentation

Intrinsic Motivation

Definition

Intrinsic motivation is the desire to do something "just to be doing it." That is, the experience of the behavior is reward enough, independent of any separable consequences that may follow. Intrinsic motivation often leads to or promotes flow, in which individuals become completely absorbed in some challenging activity, such as rock climbing or piano playing. Intrinsic motivation is typically contrasted with extrinsic motivation, in which behavior has no intrinsic appeal and occurs only because of the rewards and reinforcements it brings.

Background and History

It took a long time for the concept of intrinsic motivation to be accepted in psychology. This is because the concept does not fit well with the behaviorist and drive-theory models of human nature that dominated in the early to mid-20th century. Behaviorist theories say that behavior occurs because it has been rewarded in the past, that is, because it has been positively reinforced by rewards or consequences administered after the behavior is over. Drive theories say that all behavior is ultimately motivated by the necessity of dealing with biological demands and needs, such as hunger, thirst, and pain avoidance. Neither model can explain spontaneous, playful, and exploratory behavior that is unrelated to external rewards or to biological drives. Such spontaneous behavior was observed many times in the early part of the century, even in lower animals. For example, rats will incur pain, and hungry monkeys will pass up food, to get the opportunity to explore a new area of their enclosure. Mechanistically oriented psychologists at the time tried to reduce such behavior to biological drives or external conditioning, but their explanations were unpersuasive. It was not until the cognitive revolution of the 1960s that an appropriate paradigm emerged for viewing intrinsic motivation. From a cognitive perspective, intrinsic motivation expresses the desire to stimulate, exercise, and develop the central nervous system. Given that complex online information processing is central to human adaptation, it makes sense that humans would have evolved an inherent motivation to seek out challenges, develop interests, and consolidate their knowledge of the world. This assumption is also central to contemporary cognitive-developmental theory, according to which

individuals' active attempts at mastery provide the basis for many types of cognitive growth and change.

Evidence and Outcomes

The early experimental research on intrinsic motivation focused on the intrinsic motivation undermining effect. This was the counterintuitive finding that people are often less interested in doing something after they have received a reward for doing it, a finding that radically contradicts the assumptions and predictions of operant behaviorism. In a typical experiment, participants would first play with an interesting puzzle. Some participants would be asked simply to try it out, and others would be given rewards (i.e., money, food, certificates) for doing, or for solving, the puzzle. In a later free-choice period, rewarded participants were less likely to spontaneously play with the puzzle, as observed through a one-way mirror; apparently, their intrinsic motivation had been undermined. This finding and the findings of other early intrinsic motivation researchers were controversial at the time and remain controversial today, primarily among behaviorally oriented psychologists.

Still, intrinsic motivation has been shown to be hugely important in many domains, including education, medicine, sports, work behavior, and personal goal pursuit. Intrinsically motivated individuals report better mood, enjoyment, and satisfaction than extrinsically motivated individuals. They also perform better—processing information more deeply, solving problems more flexibly, and functioning more effectively and creatively in general. As one example research program, Teresa M. Amabile's pioneering studies showed that individual creativity in artistic pursuits (e.g., collage making, haiku writing, drawing), as consensually agreed upon by multiple judges, is often undermined by external contingencies including not only positive external rewards and prizes (i.e., a sticker for "best collage") but also negative external pressures, such as deadlines, threats, surveillance, and evaluation.

When do rewards undermine intrinsic motivation? A recent and comprehensive meta-analysis summarized more than 100 experimental studies, showing that free-choice motivation is most undermined when the rewards are expected (rather than unexpected) and are contingent (rather than noncontingent) upon either task engagement, task completion, or positive task performance. In other words, if a person gets what he or she expects, as a reward for starting, finishing, or doing well at a task, then that person tends to lose

interest in the task. Notably, this meta-analysis also showed that verbal praise rewards are not necessarily undermining and can even enhance intrinsic motivation, as evidenced by greater subsequent free-choice play following praise.

Theories of Intrinsic Motivation

What causes the intrinsic motivation undermining effect? Edward Deci, and his later colleague Richard Ryan, developed cognitive evaluation theory to explain it. In this model, human beings have innate psychological needs for both competence and autonomy. Individuals tend to lose their intrinsic motivation for activities that thwart these needs. Incompetent performance is thus an obvious potential detractor from intrinsic motivation, and indeed, in Mihaly Csikszentmihalyi's flow theory, a nonoptimal match between one's skills and the task demands is defined as a major impediment to flow. Deci and Ryan's novel proposal was that rewards can thwart autonomy needs when people perceive that the rewards are being used in a controlling way. In this case, the individual may shift from an internal perceived locus of causality ("I am the origin of my behavior") to an external perceived locus of causality ("I am a pawn to my circumstances"). Central to the model is the individual's cognitive evaluation of the reward. Does it seem to represent an authority's attempt to dictate or force his or her behavior? According to cognitive evaluation theory, even verbal praise can undermine intrinsic motivation if the recipient evaluates the praise as an attempt to coerce him or her. The results of the meta-analysis described in the previous section suggest that on average, tangible rewards tend to carry such connotations, although verbal praise does not.

In contemporary psychology, Deci and Ryan's self-determination theory uses the concept of intrinsic motivation as the foundation for a comprehensive theory of human motivation, agency, self-regulation, and thriving. The theory takes an organismic, humanistic, and somewhat liberal perspective on human nature, hoping to illuminate how societies should be constituted to maximize peoples' self-actualization and psychological well-being. This theory focuses on the connections between social and cultural contexts (i.e., autonomy-supportive vs. controlling), contextual motivation (i.e., intrinsic vs. extrinsic), and resultant outcomes (i.e., need satisfaction, mood, performance, creativity, and future motivation). In keeping with cognitive evaluation theory, the theory also focuses on

personality traits and styles as determinants of contextual motivation; some people are more prone to interpret rewards as controls and constraints (control orientation), whereas others are able to interpret rewards merely as informational and noncontrolling (autonomy orientation).

Research suggests that intrinsic motivation is a highly desirable quality, to be fostered within individual personalities as well as within social contexts such as classrooms, workplaces, ball fields, and interpersonal relationships. Indeed, intrinsic motivation may be essential to the achievement of optimal human being.

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See also Extrinsic Motivation; Self-Determination Theory

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INTROSPECTION

Definition

The term *introspection* is generally used by psychologists to refer to people's observation and contemplation of their own thoughts, feelings, and sensations. In early psychology, trained introspection was viewed as a useful tool for acquiring data about the nature of such cognitions, though the methodology fell into disfavor and was largely abandoned during the past century. However, introspective self-reports are still employed in social psychology to assess such constructs as attitudes, leading to continuing debate over the proper role of introspection in scientific psychology.

History

The controversial nature of introspection stems from its use as a methodological tool by the structuralists, who sought to create modern, empirical psychology toward the end of the 19th century. Wilhelm Wundt and others trained research subjects to examine and describe their own thoughts in an attempt to create a table of mental elements analogous to chemistry's periodic table of elements. This method of trained introspectionism was described by Edward Titchener as requiring impartiality, attention, comfort, and freshness. After 40 years of research, structuralists cataloged 50,000 constructs, representing three major classes of elements—sensations, images, and affection—each of which was viewed as possessing four attributes—quality, intensity, duration, and clearness.

The method of trained introspectionism ultimately became bogged down with reliability and validity issues, especially because training inherently colored the reports of introspecting subjects. The approach was criticized by Gestalt theorists, who argued that the overall organization of thoughts is more important than individual elements, and by behaviorists, who argued that behavior, not thought, is the proper focus of scientific psychology. Over the next 50 years, these two approaches dominated Europe and the United States, respectively, and the method of trained introspection was abandoned.

Validity of Introspective Self-Reports

The behaviorist critique calls into question any research method that relies on people's introspective self-reports of their perceptions, thoughts, or feelings. Yet, such self-report measures are commonly used in social psychology, especially to assess moods, emotions, beliefs, and attitudes, often to good effect. True, concerns are raised periodically that people may distort their self-reports, especially if the attitudes they hold are socially undesirable. And recently researchers have demonstrated that people sometimes hold implicit attitudes of which they are not even aware and which, therefore, cannot be assessed with common self-report measures. One view is that such attitudes reflect an elaborate adaptive subconscious that inherently colors all perceptions, communications, and actions. An alternative view is that implicit attitudes may be relatively rare and frequently overridden by conscious ones.

Critics also argue that introspection necessarily changes the cognitions that people contemplate and report. One program of research suggests that simply thinking about one's attitudes causes them to become

more extreme. Another indicates that thinking about the reasons for one's attitudes can fundamentally change those attitudes in important ways. For example, in one study, subjects introspected about why they preferred one of two posters before deciding which to take home; others made their choice without introspecting. When contacted weeks later, those who had introspected before choosing were generally less happy with their selection than those who had not. The researchers suggest that introspecting focused subjects on easy-to-communicate justifications for their choice that did not reflect their actual feelings, leading to choices they ultimately found unsatisfying.

One common view is that people are ordinarily better at discerning their own attitudes than they are at introspecting the reasons for, or processes underlying, those attitudes. In one study, shoppers felt several nightgowns, reported which they preferred, and then described the reasons for their preference. In actuality, all the gowns were the same, though people tended to prefer the one on the right, due to a common serial position effect. However, no one correctly reported that their preference was determined by serial position; instead, people made up justifications for their preferences. People's tendency to introduce theories about their thoughts and preferences, rather than to report such thoughts objectively, underlies many criticisms of introspective methods.

Nonetheless, some psychologists argue that introspection ought to be treated like any other scientific methodology, including modern brain-imaging tasks that may seem more scientific. In other words, researchers need to develop sophisticated theories of the cognitive processes involved in introspection, the factors that affect such processes, and thus the circumstances under which introspection can or cannot provide useful data. In general, introspection is expected to yield more valuable data about the way that stimuli and events are experienced than about the mechanisms or causes of those experiences. And, in general, converging results from several different methods will be more definitive than the results of any one method alone.

Consider, for example, introspective reports of pain. Doctors generally assume that self-reports of the nature, severity, and location of pain are highly informative, even if not totally accurate. When a patient says, "It hurts when I raise my right arm," this is a key piece of evidence in framing the problem to be addressed and in diagnosing the ailment. Other kinds of data, such as x-rays or brain imaging may also provide useful data, especially when combined with those self-reports. But doctors are much more skeptical of a patient's speculations about the causes of reported pain, such as "It feels like I tore the bursa." This is where other methodologies may be more useful. Even so, when the patient has the appropriate knowledge (e.g., she is a doctor herself), even introspections about causation may be valuable. Some writers therefore suggest that refinement of introspective methods may ultimately require that subjects receive special training, a controversial proposal given past criticisms of the method of trained introspection.

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See also Adaptive Unconscious; Attitudes; Beliefs; Consciousness; Implicit Attitudes; Social Desirability Bias

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INTROVERSION

Definition

Introversion is a stable and heritable personality dimension characterized by a preference for quiet settings and for being alone. This does not mean that introverts are unfriendly, lethargic, or cold; instead, they are better described as reserved and even-paced, more likely to be involved in low, rather than high, stimulation tasks. Introversion is considered to be the opposite of extraversion. It is different from shyness in that anxiety and fear of social situations that describe shyness is absent in introversion.

The term was invented by the psychoanalyst Carl Jung. He used it to refer to people who followed their own inner promptings and beliefs, rather than just going along with the crowd. This original meaning has somewhat been lost in the emphasis on being sociable and outgoing, but some people still use it in that way.

Measurement

Two most common ways of measuring introversion are the NEO (Neuroticism-Extroversion-Openness) Personality Inventory and the Myers-Briggs Type Indicator. The former, which emphasizes the new concept as being outgoing, is most commonly used in research and academic settings, while the latter, which is based on Jung's theories, is most widely used in business and industrial settings. Both measure introversion as the opposing pole of extraversion. The Social Introversion scale of the Minnesota Multiphasic Personality Inventory–2 is a third commonly used measure of introversion.

Life-Span Development and Demographics

Introversion is generally stable across the life span, although estimates of the amount of stability vary widely, from .3 to .8. One of the reasons for the relative stability across the life span may be that introversion is, in part, biologically based and genetically inherited, although estimates on the amount of heritability also vary widely. One theory of biological basis for introversion proposes a neural mechanism that renders extraverts underaroused and make introverts more sensitive to stimulation. Consequently, introverts avoid loud, exciting social situations in an effort to avoid excessive stimulation, contradicting assumptions that introverts avoid such situations because they are unfriendly, shy, or experience social anxiety. A second theory emphasizes the differences in impulsivity, such that introverts are low on their reactivity to stimuli and high on their inhibitory systems, therefore rendering them to inhibit their behaviors and curtail impulsivity.

Demographics of Introverts

In the United States, the population is about evenly split between extraverts and introverts. Although extraverted behavior is often encouraged by American culture, introverted preferences, such as engaging in self-reflection, are generally accepted as normal. In recent years, the Internet has provided a unique opportunity for introverts to socialize in a way that appeals to their personality. One factor that may lead to this comfort level is the ability to easily regulate one's level of interaction with others.

Furthermore, while happiness is often associated with extraverts, a substantial portion of introverts do lead very satisfying and happy lives. This may be because happiness has a strong link to both fulfillment and emotional stability. Introverts can lead very fulfilling lives by focusing on what pleases them— usually this includes solitary pursuits and building intimate relationships with a select group of friends, as well as some of the activities also enjoyed by extraverts.

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See also Big Five Personality Traits; Extraversion; Personality and Social Behavior; Positive Affect; Shyness; Traits

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IRONIC PROCESSES

Definition

In almost all English dictionaries, one meaning of irony (i.e., that which is ironic) refers to an unexpected outcome or a surprising consequence. Social psychologists, however, reference ironic processes predicated upon the inner workings of the mind. Thus, ironic processes are mental processes. What is ironic is the nature of a person's mental processing, such as an unexpected change in thoughts, internal images, feelings, attitudes, and so forth. A good way to understand the social psychological meaning of ironic processes is by a demonstration. The following example is similar to the one used in the initial studies of the ironic processes that occur during mental control, particularly during thought suppression.

While reading the rest of this brief description about ironic processes, simply follow this basic instruction: Try not to think of a white bear. It is worth

noting that the instruction not to think of a white bear is an instruction to suppress a thought. To comprehend the instruction, the reader brings to mind an image or memory of a white bear, maybe one that he or she saw at a zoo, read in *National Geographic,* or saw on the Discovery channel. For some, the image of a white bear appears effortlessly (i.e., pops into mind); others consciously scan memory until a white bear surfaces. Yet, the instruction was not to think about the white bear. Try it: Do not think of a white bear. This discussion will return to the white bear later.

Background and History

Research on ironic processes by Daniel M. Wegner and his colleagues has yielded fundamental and important conclusions. The explanation of ironic processes during thought suppression is that a person's mind simultaneously engages in two distinct processes. Each process is involved with a specific mental task. This is the ironic process theory.

In theory, one of the processes occurs when a person deliberately tries to suppress an image or memory from his or her mind. To suppress a thought successfully, a person may repeatedly attempt to decrease a thought's occurrence, ideally, until the thought appears in the mind's eye no more. To do this takes mental effort: This is the operating process. During ironic processing, another process works in tandem with the operating process.

The second process is the monitoring process. The monitoring process is a less effortful mental process. In theory, during thought suppression, a person makes a mental note to wait and then see if an uninvited thought recurs. The monitoring process checks for instances of the thought to be suppressed. When the monitoring process detects an unwanted thought (e.g., while on a diet, you notice the recurrent mental image of your favorite dessert food), the operating process attempts to replace the unwanted thought with something else (e.g., you try to distract yourself by reading the newspaper). If both processes operated harmoniously all of the time, people would be quite proficient at suppressing undesired thoughts. So far, there is nothing ironic about the ironic process theory.

In laboratory studies, when a person became sufficiently occupied with other tasks besides trying to suppress an unwanted thought, fewer mental resources were available for the person to attend to his or her operating process. In these studies, participants knew that their goal was to suppress a thought. However, when their attention and mental focus shifted from thought suppression to other new mental activities, the conscious pursuit of suppressing a thought decreased or stopped, but the monitoring process continued.

The results of this research suggest that it is easy for most people to continue monitoring the occurrence of unwanted thoughts. However, when new tasks and activities occupy the body and mind, the operating process slows down or stops, which is the other process needed to suppress unwanted thought. Simply, part of the mind continues to notice the unwanted thought, but another part of the mind does not do anything to get rid of the unwanted thought, because the person is busy processing new information. A consequence of this interplay between each process is ironic processing.

An important research finding occurred when participants were asked to do other mental work besides just suppress a thought. The object they wished to suppress became increasingly and unexpectedly (ironically) accessible from memory: The thought to be suppressed appeared more often in their minds, as they were burdened with more than one mental task to do. It seemed that if enough activity occupied the mind, the simple goal to suppress a thought actually became a difficult goal. While processing ironically, people become preoccupied with the very thoughts they try to suppress, even though voluntary control is exerted in an effort to suppress unwanted thoughts. Psychologists do not yet understand exactly why and how this occurs.

Recall that earlier you tried not to think of a white bear. You probably had no trouble initially remembering a white bear, but you may have had some trouble with suppressing the image of one as you continued reading. When you first retrieved a memory of a white bear—say, a mental picture of one—the white bear was just as accessible as any other memory (e.g., a boat, a doughnut). However, after you were given the instruction to ignore the image of a white bear, you also focused your attention on reading these words and sentences. The extra mental activity needed to read may have been enough to deter you from using all of your operating processes toward getting rid of the image of a white bear. As you continued to read, you might have noticed the returning image of a white bear. Because it has taken you mental work to read and comprehend this summary about ironic processes, your operating process worked less efficiently than if

you had stopped reading and just focused on suppressing the thought of the white bear.

In theory, by recalling a white bear earlier, information associated with a white bear became active in your memory. Recall that while the operating process temporarily helps block out the image of a white bear, the monitoring process continues scanning the mind for occurrences of the white bear as you kept reading. Some of the activated information becomes a distraction during the attempts to suppress thought. The ironic processes that occur during thought suppression are obviously limited to certain kinds of circumstances, such as those where a person must do other things besides constantly attend to suppressing thoughts.

Importance and Consequences

Real life is not too different from the laboratory tasks used to study ironic processes. Life is full of surprises and needs constant attention. People are rarely, if ever, left to themselves to put their undivided attention and energy toward getting rid of unwanted thoughts. While people are awake, there is plenty of information to attend to and to think about.

The initial research that helped formulate the ironic process theory began with something relatively simple, a white bear. However, researchers also study dieting and the ironic processes that occur while people try to suppress their cravings. Researchers also examined the ironic processes that occur during the suppression of sexist thoughts and remarks. Social psychologists and psychoneuroimmunologists have also begun researching the relationship between ironic processes during thought suppression and immune cell response in the body. Thus, there is some evidence linking ironic processes with physical health and illness.

In Wegner's theoretical review, he suggested several logical directions that research on ironic processes could go. Indeed, by now researchers and practitioners have begun to study ironic processes and their effects from his suggested starting points. For example, one research direction involves identifying personality characteristics related to the susceptibility of ironic processing. Who is most (and least) susceptible to ironic processes and their unwanted effects? Another research direction involves identifying the ways people build up a resistance or psychological immunity to ironic processes. How do people inhibit or block the undesired aspects of ironic effects during thought suppression? Research on ironic processes is also applicable to clinical psychology. The ironic process theory is useful to clinical psychologists interested in the maladaptive ironic processes, such as those that tend to occur in individuals with obsessive-compulsive disorder and post-traumatic stress disorder.

Researchers in the fields of social cognition and social psychology of the late 20th and early 21st centuries helped uncover a pattern that human thoughts routinely engage in, ironic processing. Researchers have only recently begun to invent testable theories and scientific methods that help psychologists understand why and how ironic processes are adaptive (and sometimes maladaptive) mechanisms of human thinking. The research on ironic processing described here extends well beyond social psychology. Recent research on this topic is interdisciplinary, with insights from clinical and cognitive psychology, immunology, and neuroscience. The current research conclusions about ironic processes also lend themselves well to interdisciplinary work between social and developmental, evolutionary, and industrial-organizational psychology.

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See also Accessibility; Mental Control

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