introduced into these tests. The participant can be influenced by temporary states, such as hunger, sleep deprivation, drugs, anxiety, frustration, or all of these things. The results could be influenced by instructional set, examiner characteristics, the respondent's perception of the testing situation, or all three elements. Finally, ability factors influence all projective tests, particularly verbal ability. A meaningful interpretation of projective tests must consider all of these factors.

The TAT is the most popular projective test after the Rorshach Inkblot Test, and when scored using the standardized procedure developed by Bellak or used for well-defined constructs such as achievement motivation or affiliation, it is fairly reliable and valid.

The TAT was developed as measure of Henry Murray's need theory. Murray proposed a set of psychological needs that determined personality. He also defined common environmental forces—presses—which acted on personality and behavior. Murray believed that the projective responses to the ambiguous TAT cards would reveal an individual's needs and presses. Currently, the TAT is used in clinical as well as research settings to measure personality constructs. In social psychology the TAT might be used to assess individual differences in relating to others within social settings or groups.

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See also Need for Affiliation; Projection; Research Methods

Further Readings

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THEORY OF MIND

Definition

Theory of mind (ToM) refers to humans' everyday mind reading. It is the commonsense ability to attribute mental states (such as beliefs, desires, and intentions) to one's self and to other people as a way of making sense of and predicting behavior. For example, your thought that "John thinks I ate his sandwich" reflects a basic understanding that John has internal mental states much like your own, though the specific content of those mental states may differ from your own (in this case, perhaps you believe that Mary ate John's sandwich). ToM is fundamental to everyday social life: Normally it is taken for granted that others have beliefs and desires and that they act in accordance with those mental states; furthermore, it is assumed that other people use *their* ToM to think about *another's* mental states (e.g., "John believes that I intend to make him believe that I didn't crave his sandwich"). Although potatoes and houseflies are considered incapable of these complex forms of thought, it is less obvious whether or not other mammals and birds have a ToM. The emerging consensus on this issue is that other species have either highly limited or, more often the case, no ToM abilities resembling those of humans. Therefore, ToM may be one of the crucial attributes that make humans human and distinguish humans' social lives from the experience and behavior of all other social animals. Also, among humans, it is possible that newborn babies do not have a ToM, and so child psychologists are very interested in understanding when and how children acquire this ability.

Background

The term *ToM* was coined by primatologists David Premack and Guy Woodruff, who were interested in whether chimpanzees could use abstract concepts such as desire and memory to interpret others' behavior. Although the matter remains controversial, ToM capabilities appear to be uniquely human. Other species may communicate with elaborate signaling and vocalizations, but they are probably not drawing on a rich understanding of mental states and how they influence behavior. Their social interactions might be characterized in the same way as your interaction with a vending machine: You do such-and-such, this thing responds in a useful and predictable way, but you don't necessarily believe that it thinks, feels, or has any intentions of its own.

Basic Research

In addition to primatologists, scholars in diverse disciplines have taken an interest in ToM. Evolutionary psychologists have noted that the evolution of human language and social cooperation may have built on ToM. That is, without ToM, human language probably would not have developed into its present state. Some

philosophers contend that ToM figures centrally in human consciousness, since the appreciation that one's perception of the world may differ from others' requires *knowing* that one *knows* (i.e., metacognition). The most extensive ToM research comes from developmental psychologists. ToM may seem like a perfectly obvious and basic capacity, but humans are not born with it. As the psychologist Jean Piaget noted, young children have difficulty appreciating that their construal of reality may not be shared by everyone. Gradually they begin to understand that their mental states are unique to their perspective and begin to represent others' perspectives based on knowledge of their mental states. ToM is often assessed in children using a false belief task: Show a child that a container labeled "lollipops" actually contains pencils rather than the expected candy. Ask the child what someone else who has not seen the contents of the container will think it contains. Most 3-year-olds incorrectly predict "pencils," whereas most 4-year-olds predict "lollipops." Passing this test requires thinking through what another person would think given knowledge that differs from one's own.

Implications for Everyday Life

Everyday social activities—communicating, navigating public spaces, or outsmarting a basketball opponent—depend crucially on everyday mind reading. How fundamental ToM is to everyday social life isn't realized until seeing cases where it is impaired. This seems to be the case with autistic individuals, who lack normal social insight and communication skills in part because of selective deficits in the capacity to reason about others' mental states. The following are some everyday social phenomena involving ToM.

Communication

In normal, reciprocal communication, a person uses ToM to monitor whether the person and his or her communication partner are still attending to the same topic, to shift topics, and to discuss imaginary or hypothetical situations. ToM is also instrumental in understanding subtle or indirect meanings, such as those conveyed through sarcasm, humor, and nonverbal communication (e.g., facial expressions). Conversely, everyday types of miscommunication occur when people fail to take into account each other's perspective. For example, you might be confused if a friend called and

abruptly announced, "I refuse to do that!" because she has failed to think through what knowledge is only in her head and what knowledge is mutually shared, or common ground.

Persuasion

The ability to reason about what others think, and how certain messages are likely to affect attitudes, is critical for influencing beliefs and actions. For example, if you attempted to use persuasion to influence your boss's attitude about the importance of conserving water, you would need to adopt his or her point of view and to anticipate his or her reactions to your persuasive appeal. On a similar note, effectively deceiving someone, from telling a white lie to staging an elaborate ruse, demands that the deceiver see the world through another's eyes. It would be quite impossible to tailor a persuasive or deceptive message without first appreciating what others already know, want, or feel.

Empathy and Helping

Imagine seeing someone struggling to open a door while negotiating six bags of groceries and three children. Would you offer help even if there was nothing in it for you? According to Daniel Batson, if you empathize with the person—that is, vicariously experience the person's suffering—you will be likely to help regardless of what you stand to gain by doing so. Whether a person lends a hand to those in need can thus depend crucially on his or her ability to put him- or herself in their shoes, to experience events and emotions the way they experience them.

Explaining Behavior

People often act as amateur psychologists, trying to interpret others using what Fritz Heider called a naive or commonsense psychology about how minds and actions interrelate. People use information about traits and situations, but they also interpret others' actions from the perspective of their predisposing desires and beliefs ("He's upset because he thinks I ate his sandwich"). Interestingly, people are also prone to attribute human-like mental states to nonhuman entities that presumably don't have minds ("This butterfly came by to cheer me up!" or "I think my computer hates me!"). Cultural practices (e.g., rain dances) and beliefs (e.g., karma, fate) suggest that the young child's animism,

the belief that the physical world is endowed with mental life, retains its appeal well into adulthood.

Conflict

To have a mind is what it really means to be human. Historically, one way that people have justified their incessant brutalization and annihilation of each other is to deny that their victims are possessed of mind—they are "rats," "bugs," or even "filth"—and are thus (the reasoning goes) appropriate to enslave, belittle, or extinguish without compunction. Consistent with this notion is recent evidence that humans are more likely to attribute mind to those they like. Future research should explore not only the capacity for ToM but also the social ramifications of people's motivations for admitting or denying certain others into the charmed circle of mental beings.

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See also Attributions; Empathy

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THEORY OF PLANNED BEHAVIOR

Developed by Icek Ajzen in 1985, the theory of planned behavior (TPB) is today perhaps the most popular social-psychological model for the prediction of behavior. It has its roots in Martin Fishbein and Ajzen's theory of reasoned action, which was developed in response to observed lack of correspondence between general dispositions, such as racial or religious attitudes, and actual behavior. Instead of dealing with general attitudes of this kind, the TPB focuses on the behavior itself and goes beyond attitudes to consider such other influences on behavior as perceived social norms and self-efficacy beliefs.

Conceptual Framework

According to the theory, human social behavior is guided by three kinds of considerations: beliefs about the behavior's likely positive and negative outcomes, known as *behavioral beliefs;* beliefs about the normative expectations of others, called *normative beliefs;* and beliefs about the presence of factors that may facilitate or impede performance of the behavior, termed *control beliefs.* For example, people may believe that the behavior of exercising, among other things, improves physical fitness and is tiring (behavioral beliefs), that their family and friends think they should exercise (normative beliefs), and that time constraints make it difficult to exercise (control belief). Taken together, the total set of behavioral beliefs produces a favorable or unfavorable attitude toward the behavior; the total set of normative beliefs results in perceived social pressure to perform or not to perform the behavior, or subjective norm; and, in their totality, control beliefs give rise to a sense of self-efficacy or perceived control over the behavior.

Attitude toward the behavior, subjective norm, and perceived behavioral control jointly lead to the formation of a behavioral intention. The relative weight or importance of each of these determinants of intention can vary from behavior to behavior and from population to population. However, as a general rule, the more favorable the attitude and subjective norm are, and the greater the perceived behavioral control is, the stronger is the person's intention to perform the behavior in question. Finally, people are expected to carry out their intentions when the appropriate opportunity arises. However, successful performance of a behavior depends not only on a favorable intention but also on a sufficient level of volitional control, that is, on possession of requisite skills, resources, opportunities, and the presence of other supportive conditions. Because many behaviors pose difficulties of execution, the TPB adds perceived behavioral control to the prediction of behavior. To the extent that perceived behavioral control is accurate, it can serve as a proxy of actual control and can, together with intention, be used to predict behavior.

Beliefs play a central role in the TPB, especially those salient behavioral beliefs that are most readily accessible in memory. In applications of the theory, these salient beliefs are elicited in a free-response format by asking a representative sample of respondents to list the advantages and disadvantages of performing