Traits, Situations, and Their Interaction

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Suppose that someone is about to introduce you to one of her best friends. A common inquiry in such circumstances is "What is she like?" In other words, what traits characterize her? Is she kind, aggressive, honest? Traits provide us with convenient methods of organizing information about others, of describing how they have behaved in the past, and of making predictions about how they will behave in the future (Jones and Nisbett, 1971; Kelley, 1967). Throughout the history of the study of personality, considerable effort has been devoted to building taxonomies of traits, developing methods for measuring traits, and finding the ways in which groups of traits cluster together. Indeed, the very concept of personality assumes that there are characteristics or traits that remain stable over time.

As described in Chapter 2, an important critique of trait psychology appeared with the publication of Mischel's (1968) book, *Personality and Assessment*. Mischel's review of the personality literature indicated that personality measures were very poor at predicting behavior in specific situations. Following the publication of Mischel's book, the field of personality had to rethink many of its most basic assumptions. This improved measurement and led to a better understanding of when traits predict behavior.

In this chapter, we first consider attempts to classify different kinds of human personalities in terms of types. We then consider some of the most influential attempts to classify personality in terms of *traits*, those of Cattell, Eysenck, and the Big Five model. From there, we move on to consider the debate over the, usefulness of trait notions.

Personality Types

The origins of theories of personality go back to Hippocrates and later Galen. Galen suggested there were four personality types associated with the four bodily fluids (humors) as well as with the four physical elements (see Table 9.1 and Highlight 9.1). The belief in a relationship between body type and personality has persisted into the present (see also Chapter 1). Toward the end of the nineteenth century, a German psychiatrist (Kretschmer, 1925) argued that people who were thin had a tendency to become schizophrenic, while those who were fat were more likely to develop manic depression. A more recent and better-known effort regarding body types was that of William Sheldon (1954; Sheldon and Stevens, 1942). Sheldon had people rated according to three physical structure types and then attempted to relate these body types to temperaments. Sheldon reported that people who had *mesomorphic* physiques (strong, athletic, and muscular) tended to have somatotonic temperaments (energetic, assertive, and courageous). *Endomorphic* body builds (soft, round, and with large stomachs) were associated with viscerotonic personalities (relaxed, gregarious, and food-loving). *Ectomorphic* physiques (tall, thin, and fragile) were common among cerebrotonic personality **types** (fearful, introverted, and restrained).

types Enduring individual differences in behavior disposition. These differences are thought to be arranged as a set of very few discrete categories.

In Sheldon's investigations, individuals were photographed and rated on the extent to which they possessed each of the three body types. Untrained observers then rated the personality characteristics of these same people. Sheldon then found correlations between the physique and personality ratings. However, these findings have been questioned because the raters may have been biased by predominant contemporary stereotypes, such as that round body types are jolly and athletic body types are aggressive. In fact, studies

TABLE 9.1 Relationship between Bodily Humors, Personality Types, and Elements, as Suggested by Galen

Bodily humor	Personality type	Characteristics	Elements
Yellow bile	Choleric	Irritable	Fire
Black bile	Melancholic	Depressed	Earth
Blood	Sanguine	Optimistic	Air
Phlegm	Phlegmatic	Calm; listless	Water

HIGHLIGHT 9.1

Elements and Temperament

The four physical elements identified by the Greeks—earth, air, fire, and water—were arranged according to the doctrine of opposites. Fire was perceived as the opposite of water, and earth as the opposite of air. As indicated in Table 9.1, each element was associated with a particular fluid and temperament. These associations were the basis of the prime theory of individual differences throughout the Middle Ages, and the distinctions are still persistent today. For example, literary critics have analyzed the elements predominant in the works of famous writers. It has been suggested that Nietzsche focused on air imagery, Flaubert on earth, and Poe on water.

Perhaps surprisingly, the associations postulated by Galen between elements and temperament have given rise to some research (Martindale and Martindale, 1988). These investigators asked subjects to combine adjective descriptions of the four temperaments (see Table 9.1) with words representing typical forms of the four elements. The college-aged subjects did combine the words by sorting them into piles in a manner consistent with the model proposed by Galen and the Greeks. For example, the pile containing words related to water (e.g., bath, ocean, rain) also included adjectives such as calm, controlled, and unemotional. It should not come as a surprise that someone who is choleric would be "full of piss and vinegar" and have a fiery temper.

in which individuals are rated on specific behaviors rather than on global traits tend not to show strong associations between body types and personality (Mischel, 1968).

Jung (see Chapter 4) believed that introversion and extroversion are both present in each individual, and he speculated that one of these dispositions would be dominant. Thus, he felt it appropriate to categorize individuals as primarily introverts or extroverts. Nevertheless, typologies like those proposed by Sheldon and Jung are used less frequently in current psychology. The complexity of human behavior makes it difficult to fit individuals neatly into a few simple categories. The description of someone as introverted or extroverted gives us too little information about the person. For most personality characteristics, people fit at some point on a **continuous distribution** of that characteristic rather than into the either-or categories provided by type concepts. A more scientific extension of the typology approach is represented in the work of trait-oriented psychologists.

Trait Theories

There have been many psychologists who have believed that personality is best understood by studying the organization of traits within an individual. Perhaps the most influential of the trait psychologists was Gordon Allport. Trait psychologists believe that there are characteristics of individuals that remain consistent over time and across situations. If you are an aggressive person, for example, trait theories imply that you will be aggressive in many different settings. In their study of behavior, trait psychologists use a trait as the unit of analysis or the basic focus of examination. Their task is to determine which traits occur together and how patterns of traits are organized within an individual. This taxonomic approach shares with the periodic table in chemistry the goal of identifying basic elements and expressing all compounds (traits) as elements or amalgams of the basic factors.

Cattell and Factor Analysis

To study the organization of traits, many psychologists have turned to complex statistical methods such as **factor analysis**, discussed in the previous chapter. The work of Raymond Cattell (1965) is among the best-known work of this type. In his search for the basic elements of personality, Cattell performed extensive factor analyses of three types of data: life records (ratings of behavior in everyday situations), self-ratings on personality scales, and scores on objective tests. To determine the nature and the organization of traits, Cattell first examined a list of 4,500 trait names and then reduced this list to less than 200 by grouping synonyms or near-synonyms. Then scores were obtained on the degree to which individuals possessed these traits, and the results were factor analyzed. This procedure yielded 36 *surface traits* (clusters of responses or overt behaviors that fit together) and a smaller number of *source traits* (more basic organizing structures that underlie and determine surface traits).

Various investigations by Cattell using life record and self-report data have produced a similar list of basic traits. Cattell had a fondness for coining words, to the extent that his technical titles needed to be translated into more popular labels. For example, the trait label *premsia* is short for "protected emotional sensitivity."

Most of Cattell's research was directed toward the identification of source traits, some of which he has called *environment mold traits*, or traits formed by the environment. Others, determined by factors within the individual, are called *constitutional source traits*. Another distinction Cattell made was between *specific* source traits, which describe how a person operates in a particular situation, and *general* source traits, which affect behavior in many different situations. Thus, in interpreting his factor analytic findings, the idea of trait consistency remains fundamental to Cattell's work and is reflected in the concept of a general source trait.

Eysenck's Hierarchy

Hans J. Eysenck is one of the more controversial figures in contemporary psychology. In his many active years as a psychologist, he took strong positions against traditional

continuous distribution There are many different gradations between the extremes of a scale. This is in contrast to discrete distributions that allow only a set number of possibilities. Traits are typically considered to have a continuous distribution; types are considered to have a discrete distribution.

factor analysis A statistical method of reducing a large amount of data from tests, rating scales, or behavioral observations to a smaller and presumably more basic number of dimensions of personality factors.

psychotherapy (Eysenck, 1952), was one of the earliest advocates of behavior therapy, and strongly supported the notion of intelligence as an inherited trait.

Eysenck's view of personality is in many ways similar to Cattell's, with behavior viewed hierarchically. At the bottom of the hierarchy are the *specific responses* that are actually observed. Just above these are *habitual responses*. *Traits*, at the next level of the pyramid, are analogous to Cattell's source traits, and at the top level are types. *Types* for Eysenck are basic behavior dimensions which are continuous rather than typological categories. Eysenck identified three types or dimensions that he regarded as the basic units of personality: neuroticism, extroversion-introversion, and psychoticism.

Using a variety of data sources, such as ratings, questionnaires, and physiological measures, Eysenck repeatedly identified the same dimensions in factor analytic studies. Most of his attention was devoted to classifying people along the dimensions of neuroticism and extroversion-introversion. Since neuroticism can be viewed as corresponding to emotional stability, individuals were classified along a continuum from stable to unstable. An unstable personality is seen as moody, touchy, anxious, and restless, while a stable person is characterized as calm, even-tempered, and carefree. With regard to extroversion and introversion, extroverts are seen as sociable, active, outgoing, and optimistic, while introverts are characterized as passive, quiet, careful, and unsociable. In many respects, the basic personality dimensions identified by Eysenck are similar to those described by Cattell. Eysenck acknowledged this but also contended that his approach was more dependable and more theoretically meaningful and parsimonious.

As mentioned in Chapter 1, Eysenck believed that the differences in introversion and extraversion were due to differences in the reactivity of a brain structure called the **ascending reticular activating system** (ARAS, or RAS). The ARAS is one of the systems responsible for alertness and arousal. Organisms (including humans) have a particular range of comfortable arousal. Too much or too little arousal is aversive, so humans seek out a comfortable level of arousal. Eysenck suggests that ARAS is chronically more aroused in introverts, and that stimuli are more arousing for introverts. Thus, for introverts, it does not take much environmental stimulation to reach a comfortable level of arousal. Extraverts, on the other hand, need more environmental stimulation to reach their comfortable state of arousal.

Gray and BAS and BIS

Gray, who was a student of Eysenck's, suggests a reorientation of Eysenck's dimensions of extraversion and neuroticism. Gray (1981) suggests that people differ in their sensitivity signals about reinforcements and punishments. In this model, there are two different systems: the **behavioral activation system** (BAS) and the **behavioral inhibition system** (BIS). The BAS is the system that is sensitive to signals about reinforcement. When the BAS notices signals about reinforcement, it activates behaviors in service of seeking that reinforcement. The BIS is the system that is sensitive to signals about punishment. When the BIS notices signals about punishment, behavior will be inhibited.

Consider a few college friends on a Thursday night who have been invited to a party but have exams on Friday. One friend may have a really strong behavioral activation and can sense all the positive things about going to the party, which is an extraverted behavior. That friend is not going to worry about the exam. This would be high extraversion and low neuroticism in the Eysenck model, and high BAS and low BIS in the Gray model. Another friend doesn't see any point in going to the party, since it will be loud, crowded, and she won't know anyone; plus, there is an exam. This would be

ascending reticular activating system A neuronal circuit responsible for wakefulness and associated with attention. Eysenck's model suggests that differences in introversion and extraversion are based on the underlying responsivity of this system. In this model, introverts have a more responsive system.

behavioral activation system A system that is sensitive to signals about the likelihood of reinforcement.

behavioral inhibition system A system that is sensitive to signals about the likelihood of punishment.

Source: View Apart/Shutterstock

In Gray's model, people who have high behavioral activation and low behavioral inhibition are likely to choose rewarding activities even if there may be negative consequences by doing so. Even if there is an exam the next day, a party will seem like a good idea.

low BAS and high BIS in the Gray model. Finally, there is the friend who can't wait to go to the party, excited that she will new meet people and dance, but then can't have any fun while she is there because she is so concerned about the exam the next day. This would be high BAS and high BIS in Gray's model.

Congruent with this model, Larsen and Kettelaar (1991) found that people high in extraversion, compared to people low in extraversion, react more strongly to a positive mood induction and people high in neuroticism, compared to low neuroticism, react more strongly to a negative mood induction. It also appears that people who measure as high on BAS (Carver and White, 1994) process anxiety-related tasks more efficiently in the anterior cingulate nucleus and left lateral prefrontal cortex according to fMRI measures (Gray and Burgess, 2004). Again, we have a suggestion of a brain structure associated with these personality traits.

The Big Five

More recently, a number of researchers have converged on the idea that there are five basic trait dimensions to personality. This concept is increasingly referred to as the **Big Five** model of personality. Sometimes this concept is known as the **Five Factor Model** (FFM). For our purposes, we will not differentiate between the two and will use the term Big Five.

The development of the Big Five model has its roots in the analysis of natural, everyday language (John, 1990). This is often known as the **lexical hypothesis**, the idea that important concepts will be represented within the language. A number of investigators over the years have collected words from the dictionary that represent personality traits (e.g., *strong-willed, assertive, introspective*) and then, using factor analysis, have sorted them into categories. Five factors have frequently appeared.

Others have arrived at a five-factor solution by factor analyses of personality tests. In a personality test, the subject rates the degree to which a statement describes someone. One of the most well known examples of this type of research is the work of McCrae and Costa (1990; 2008), who have developed their "NEO-PI-R" personality inventory to measure their version of the Big Five. McCrae and Costa's five factors are: Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness. The factors are often labeled with one aspect of the trait, but recognize that there is also the other end of the dimension. The following list describes the basics of each of these five factors.

1. Neuroticism (versus emotional stability). People high on this scale may manifest anxiety, angry hostility, depression, self-consciousness, impulsivity, or vulnerability.
2. Extraversion (versus introversion). People high on this scale might be sociable, talkative, active, person-oriented, optimistic, or fun-loving. People low on this scale might be reserved, independent, quiet, or aloof.
3. Openness to experience (versus conventional). People high on this scale are imaginative, curious, and willing to entertain novel ideas. They experience a whole spectrum of emotions. People low on this scale tend to be conventional, conservative, and set in their ways.
4. Agreeableness (versus cold/hostile). People high on this scale tend to be good natured, altruistic, helpful, forgiving, and trusting. People low on this scale tend to be suspicious, uncooperative, irritable, cynical, or rude.
5. Conscientiousness (versus careless/unreliable). People high on this scale tend to be reliable, self-directed, punctual, scrupulous, ambitious, and hard-working. People low on this scale tend to be aimless, lazy, lax, negligent, and unreliable.

The identification of these five basic traits has come from two sources: analysis of the *words* and analysis of the *descriptions* that individuals make of themselves and of others. An immediate question that occurs is the degree to which the Big Five represent how the average English-speaking person views personality compared to how people in other cultures view personality. In other words: how universal are these Big Five traits? Past studies have found overall congruence for the Dutch and German languages (Hofstree et al., 1997), as

Big Five Many personality researchers now believe there are five basic personality traits. One popular classification system identifies them as neuroticism versus emotional stability, extraversion, openness to experience, conscientiousness, and agreeableness.

Five Factor Model One of the models that posits that there are five major personality traits: neuroticism, extraversion, openness to experience, conscientiousness, and agreeableness.

lexical hypothesis The idea that important concepts will be part of the language, and by examining language researchers will then be able to discover those important components.

Source: michaeljung/Shutterstock

A person who is conscientious is going to be hard-working and reliable. This is the kind of person you want working with you on a group project.

well as for Japan and China (John, 1990). Neuroticism and extraversion have been replicated for languages of the Solomon Islands and of India. De Raad (1992) found congruence between the Big Five and Dutch adjectives and nouns, but not as much support for Dutch verbs. In a subsequent analysis, De Raad and his colleagues (2010) found relatively strong support for three dimensions of personality across twelve different languages. These three dimensions were extraversion, agreeableness, and conscientiousness. John (1990) notes that the weakest evidence for universality is found for openness to experience. However, the overall results are encouraging for some degree of universality.

Big Five advocates view these traits as the basic structure of personality. However, if you look at the descriptions of the five factors, you will note that each broad factor includes a number of more specific traits. For instance, neuroticism includes such disparate emotional states as anxiety, hostility, and depression. Conscientiousness includes being reliable and punctual but also being ambitious and self-directed. This is because the five factors are conceived of as being *broad band* personality traits. That is, they are seen as forming the *general* underlying structure of personality, even though they encompass many more *specific* traits. For instance, the NEO PI-R (Costa & McCrae, 2008) has several **facets** for each of the five dimensions. John (1990) notes that the Big Five is similar to taxonomies in the natural world. The five factors are equivalent to terms such as *plant* and *animal*. Under *animal*, for instance, we have lions, tigers, dogs, and so on. In a similar manner, under *conscientiousness* we have *ambitious* and *reliable*. Advocates of the Big Five do not mean to imply that personality can be described *only* in terms of these five traits any more than the world of living beings can be described only in terms of plants and animals. In fact, many Big Five advocates have said that in order to actually predict an individual's behavior, the Big Five is too broad and general. One needs measures of the more specific traits within each factor.

facets Components that are subfactors that make up a factor in the Five Factor Model.

Criticisms of the Big Five

While writers such as McCrae and John (1992) have argued that the field should now assume that the five-factor model is the correct representation of personality trait structure and move on to using it to explore other topics, there are those (e.g., Block, 1995; 2010) who believe that this conclusion is premature. Others, such as Eysenck and Cattell, whose personality tests are respectively based on three, and sixteen factors, respectively, would agree. We shall briefly note some of the criticisms Block has raised concerning the Big Five.

First, advocates of the Big Five have argued that one of the strongest sources of evidence for the existence of the Big Five is that it has been found *empirically*. That is, it was not based on someone's theoretical preconceptions, but simply found by factor analyzing words and sentences people use to describe other people. However, Block has noted that before these factor analyses were done, investigators had made numerous assumptions that may well have biased the outcome in favor of finding five factors.

Second, while many investigators have found five factors, they are not the *same* five factors. Block notes some important discrepancies among the various five-factor models. For instance, McCrae and Costa place *warmth* under *extraversion*, but Goldberg (another five-factor theorist) places it under *agreeableness*. They place *impulsivity* in *neuroticism*, but Goldberg places it in *extraversion*.

Third, while advocates of the Big Five claim that five factors consistently emerge, others have disagreed. We have already mentioned that Cattell bases his personality test on

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Honesty is added to variations on the other five traits in the HEXACO model of personality traits.

sixteen factors and that Eysenck claims there are three main factors. Block's analysis of the personality assessment device he uses, the California Q Sort, finds eight factors. Hogan and Hogan (1992) have found that they must use six factors to describe their data adequately. Block argues that this suggests that there are important aspects of personality that are not being encompassed by the Big Five.

Despite criticisms, there is much enthusiasm for the Big Five model of personality. Only further research will clarify whether that enthusiasm is well founded.

Although trait and type classifications are commonly recognized by psychologist and layperson alike, their value has been a matter of serious debate. The next section of this chapter examines the attack on traditional trait psychology and introduces some new approaches to personality assessment that have arisen out of this debate.

Beyond Five Dimensions

When considering five dimensions to describe personality, it is certainly likely that particular facets or domains may be left out of the model. Consider a person's attitude about sexuality. There are individual differences about sexuality that are not well captured in the five dimensions (Shafer, 2001). Or, consider honesty. Is it a facet of conscientiousness? A really talented embezzler is likely to be very conscientious but dishonest.

One of the major alternatives to the Big Five is a model known as HEXACO (Lee & Ashton, 2004). The HEXACO model adds an honesty-humility factor that includes aspects of personality like trustworthiness, lack of greed, and modesty. The HEXACO model includes the usual extraversion, agreeableness, and conscientiousness. Their cross language data suggests that neuroticism is better interpreted as emotional vulnerability (Ashton et al., 2004). The last factor is a combination of intellect/imagination/unconventionality (Ashton et al., 2004; p. 363). The honesty-humility dimension is positively correlated with the proclivity to apologize (Dunlop et al., 2015) and negatively correlated with the use of impression management strategies in the workplace (Bourdage et al., 2015).

Trait and Situational Theories

Mischel's Argument

Mischel's (1968) book on the assessment of personality has often been interpreted as an all-out attack on the concept of traits. Mischel (2009), however, repeatedly denied this extreme position. Rather, he maintained that the evidence for the existence of traits is weak and that the methods for their assessment need reevaluation. Furthermore, he acknowledged the value of cognitive traits, such as intelligence and speed of processing and encoding information.

The essence of Mischel's argument is that trait measures are not valid predictors of behavior in specific situations. Although personality tests do well at predicting how people will score on similar personality tests, they do poorly at predicting how someone will actually behave in a given situation. One finds that questionnaire and projective measures of aggression are not very effective predictors of an individual's aggressive behavior on the athletic field, in confrontations with authority, in response to a friend's arriving late for an appointment, and in a myriad of other concrete situations in which variations in aggressive behavior can be observed. Moreover, observational measures of aggression are not very effective in predicting aggressive behaviors in situations other than the one in which aggression was initially assessed. Similar low predictability of behaviors in specific situations can be found for measures of impulsivity, achievement motivation, anxiety, and other personality characteristics. It can be maintained that if such tests are really meaningful, they should be able to forecast how people will behave in the specific tasks that psychologists create for laboratory studies.

Mischel reported that many investigations demonstrate that the correlation between test scores and behavior in specific situations is rarely greater than .30, or that around 91 percent of the variance in behavior is unexplained by the test score. Mischel called

Measured traits may not be good predictors of behavior from situation to situation.

these low correlations *personality coefficients* and suggested that knowledge of personal characteristics tells us little about how a person will actually behave. Mischel was more impressed with the amount of variation that would be explained by knowing about the situation in which the behavior is observed, rather than knowing about the person in that situation. Thus, he championed what is known as the **situational critique** of the concept of traits.

situational critique The idea that the situation is a better predictor of an individual's behavior than personality.

Mischel's original position led to many responses, some in support, others in contradiction. Below we consider other positions in response to his critique of traits.

Attribution Theory

Another perspective suggesting the need to modify traditional trait theories derives from **attribution theory**. Originally, attribution theory was primarily concerned with the judgments people make about others, particularly their inferences about others' intentions. However, research in this area now covers all aspects of how people attempt to understand the causes of events in their lives.

attribution theory A theoretical approach based on the view that people attempt to explain and understand behavioral events through attributing the causes of those events to characteristics of the person or to factors in the environment; these causal ascriptions significantly influence goal expectancies and behavioral responses.

The basic ideas of attribution theory were first formulated in the mid-1940s and 1950s (Heider, 1944, 1958) but came to prominence decades later (Jones and Davis, 1965; Kelley, 1967). Kelley offered a model to capture how the layperson determines causation. He suggested that events are perceived as caused by three potential sources: persons, entities (aspects of the environment), or circumstances. To determine which of these, or which combination of sources, has caused an event, the person uses three criteria called distinctiveness, consensus, and consistency. If, for example, we wanted to explain why John enjoys the food at a particular restaurant so much, it would be helpful to ask if he always feels this way in restaurants (distinctiveness), whether others in the same restaurant also enjoy the food (consensus), and whether John enjoyed the food when he ate in this restaurant before (consistency). If all people enjoy the food in this eating establishment, then John's enjoyment would be attributed to the entity (it is a good restaurant); if John always enjoys food at restaurants, then the enjoyment would be attributed to him (he is a glutton); if John usually dislikes this restaurant, then his present enjoyment would be ascribed to special circumstances, such as unusual hunger, the presence of friends, or some special dish (Kelley, 1967; Orvis, Cunningham, and Kelley, 1975).

Jones and Nisbett (1971) have suggested that the selection of a trait or a situational explanation for behavior also depends on the role played by the person making the judgment. When people are observers and are making judgments about others, they tend to use dispositional or trait explanations. However, they use fewer trait concepts and more situational concepts to explain their own behavior. Thus, one might say, "You hit him because

you are aggressive" (a trait explanation), but, "I hit him because he did something wrong" (a situation explanation). Thus, we are likely to use the traits to explain other people's behavior. Consequently, we see their behavior as due to that consistent trait.

Why should there be a difference between the attributions of actors and observers? Jones and Nisbett suggest that this is so because people know more about their own behavior than they know about the behavior of others. Searching through memories, a person can recall behaving differently in many different situations in the past. Information regarding the distinctiveness and inconsistency of behavior fosters situation attributions. Note, however, that this analysis assumes that individuals find little consistency in their behaviors across situations. Observers, on the other hand, are less likely to have the information available about others to rule out situational causes of behavior, and therefore make trait attributions for other people.

A classic demonstration of the actor-observer bias comes from Storms (1973). Participants were filmed, then shown that film of their own behavior from the perspective that other people would have. When a person views him- or herself from the viewpoint of other people, he or she tends to use trait explanations for his or her own behaviors, when typically this person would use a situational explanation.

Attribution Theory and Trait Psychology

Attribution theorists have not been concerned with the inadequacy of traditional trait tests for predicting behavior. Rather, traits are important because people use them to describe the behavior of others; they are part of the implicit or "naive" psychology that the layperson uses (see Chapter 6). Extensive research has demonstrated that both laypeople and experienced clinical psychologists favor explaining behavior in terms of enduring dispositions, instead of in terms of the situation. The tendency to overestimate the importance of traits and underestimate the importance of the situation in causing behavior has been labeled the **fundamental attributional error** (Ross, 1977).

fundamental attribution error This is a tendency to attribute behavior of other people to their personality rather than to the situation.

Indeed, it appears that our first, relatively automatic reaction is to attribute what a person does to his or her traits. Only with conscious effort and thought do we take the situation into account (Gilbert, 1989). Gilbert has argued that when we are under cognitive load, we are more likely to ignore situational contributions to behavior and to overattribute the behavior to an individual's personality traits.

For instance, in a study by Gilbert, Pelham, and Krull (1988), subjects watched a silent videotape of a woman engaged in conversation with a stranger. The woman exhibited various visual signs of distress and anxiety: tapping her fingers, twirling her hair, biting her nails. In one condition, where subjects were told that the woman had been asked to talk about her sexual fantasies, it was assumed that the subjects would attribute her distress to the *situation*, that is, to having to talk about one's sexual fantasies to a stranger. In another condition, where subjects were told that the woman had been asked to talk about bland topics, it was assumed that the woman's distress would be attributed to her *personality*, that is, the woman acts anxious because she is an anxious person. These differences in behavior attribution were found as long as the subjects were not under stress themselves. However, when subjects had to engage in a memory task as they watched the video, all subjects tended to attribute the woman's anxiety to her personality, as if they had not bothered to take into account whether or not she was in an anxiety-producing situation (e.g., talking about sexual fantasies to a stranger).

Other research even suggests that the manner in which we make judgments about others is not strongly associated with either past experiences or our observations of these others. For example, one study examined peer ratings given by different groups of men (Norman, 1963). One group had lived together in the same fraternity for three years, while another group was less closely associated. Although the two groups had differing amounts of contact, they used very similar dimensions for making judgments about one another. Indeed, these same dimensions of judgment emerge when subjects rate complete strangers (Passini and Norman, 1966). These studies demonstrate that the same dimensions or traits are used to rate others whether or not the subjects are familiar with the people they

are evaluating. These findings do not necessarily mean that the trait dimensions are being misapplied; rather, they suggest that trait ratings might tell us more about the raters than about the people being rated. But whether or not traits are valuable for understanding behavior, observers *believe* that they are and tend to perceive information in a manner that supports trait interpretations.

Alternative Assessment Strategies

Despite problems with the notion of traits, few psychologists have actually shelved their faith in personality dispositions. While the concept of traits may still have utility, it does appear that a complete reliance on traits is an oversimplification that can lead to incorrect predictions of behavior in a variety of situations. Although there is consistency and constancy in our lives, better measurement techniques are needed to predict future behavior. This requires methodologies that consider and include the evaluations of situations, the interaction of traits and situations, and other approaches to trait assessment.

The Interactionist Position

It is meaningless to ask which is more important when it is evident that behavior is always a joint function of characteristics of the person and of the situation, as was discussed in Chapter 2. This **interactionist position** is a rapprochement between trait and situational approaches to personality assessment which acknowledges the importance of personality dispositions as well as the role of situations.

The interactionist position takes several multiple forms, each with different implications. One such form is the *transactional* approach (Magnusson, 1990). Whenever interaction is described in these terms, it refers to the reciprocal sequence of actions that take place between person and situation. Each situation poses its own demands and cues that tend to call for a particular set of behaviors. The relaxed setting of an informal gathering will elicit very different behaviors than a formal dinner party; the athletic field elicits different responses than the classroom. Each individual brings his or her own set of unique personality traits to each of these situations. These traits influence how the situation is perceived; different people will see different aspects of the situation as most important. Thus, at the dinner party, person A, who is characterized by anxiety over status and acceptance by others, will be oriented to the seating arrangement and to the amount of attention given by the host and hostess; person B, an outdoorsy extrovert, will find the stiffness and formality particularly frustrating.

Following the individual differences in perceptions of situations, people behave on the basis of these perceptions and their behaviors elicit reactions from others. The feedback from these behaviors and reactions will then influence subsequent behaviors. The behavioral outcome that is finally observed is a result of a sequence of reciprocal transactions between the individual, with his or her uniqueness, and the situation, with its uniqueness. This formulation of the trait-situation interaction is consonant with the views of situation-oriented theorists like Mischel, as well as with those of many trait-oriented theorists (Endler and Magnusson, 1976; Magnusson and Endler, 1977).

There is a common but more limited meaning of the term *interaction* that is also applicable to the trait-situation issue. In the statistical sense, interaction refers to a *differential* effect that the same situation may have on different people or the differential effect of the same disposition in response to different situations. For example, a highly insulting, frustrating situation will elicit more aggressive behavior than a nonfrustrating situation. However, the effects of the frustration are likely to be much more pronounced in individuals who have a strong disposition to respond with anger and aggression than in individuals who are low on this trait dimension. The difference in aggressive behavior between the high-aggressive and low-aggressive individuals under nonfrustrating conditions may be negligible; it is under conditions of frustration that the difference in personality traits becomes evident.

In comparison to the transactional model, the more limited interactional model is easier to investigate. Using this model, evidence for the interactionist position is obtained

interactionist position The personality theory that views behavior as governed by both the properties of the person and the situation in which the person is acting.

Personality and the situation are going to interact to create behavior. The stress of the situation interacts with the woman's personality to create her behavior.

by comparing the proportion of variance in behavior that is explained by the person, by the situation, and by the interaction between person and situation. One might think of this by drawing a pie and dividing it to represent all of the different influences on human behavior. Figure 9.1 shows such a pie. One slice represents the proportion of variance attributable to personality traits; another slice represents the proportion of variance caused by situational influences; and a third slice is for the interaction between situational and dispositional influences. The interaction is due to unique combinations of traits and situations. Careful studies designed for application of the statistical method known as *analysis of variance* have separated the proportion of variance attributable to each of these factors. As shown in Fig. 9. 1, interaction accounts for a larger proportion of the variance in behavior than either person or situation (Magnusson and Endler, 1977).

  Although it is revealing that unique combinations of persons and situations explain more of the variation than either influence by itself, the interaction position still explains only some of the behavior of some of the people some of the time (Bem and Allen, 1974). As Fig. 9.1 reveals, the largest slice of the pie is reserved for error variance: the proportion of the total that is not explained in terms of the three specified sources of influence. Although the interaction is a better predictor than either the trait or the situation, it is only slightly better. Thus, there is still a need for measurement methods that can be used to predict more of the people more of the time.

FIGURE 9.1 Factors Influencing Behavior

The Moderator Variable Approach

One solution to the dilemma of accounting for such little variance in predicting behavior from traits is to propose **moderator variables** (i.e., identify factors that are responsible for the lack of predictability of trait indexes) and then take them into account when attempting to predict behavior (see Cheek, 1982). One such moderator proposed by Bem and Allen (1974) is the reported *consistency* of each person's behavior in each domain
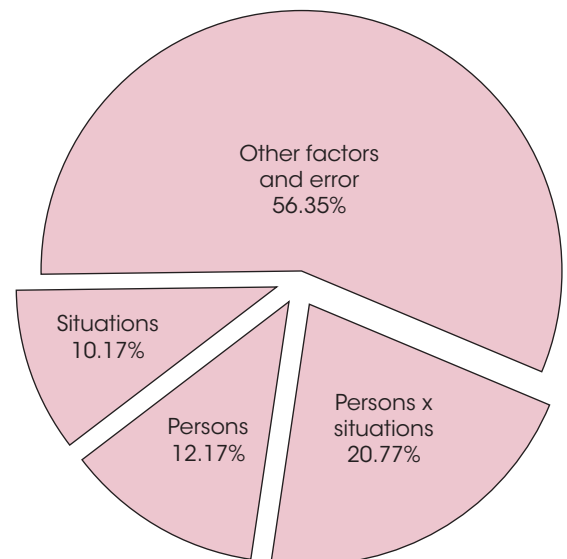
moderator variables These would be variables that will change the extent to which measured personality will be predictive of behavior. These could be things like the strength of the situation, or consistency of a particular individual's behavior overall.

of activity. Bem and Allen proposed that some individuals may be very consistent with regard to some personality characteristics, yet very inconsistent with regard to others. That is, some traits characterize some people while other traits characterize other people. And some people might not be characterized by any traits at all!

To demonstrate individual differences in consistency, college students rated whether their behavior would be consistent or inconsistent across different situations for the traits of friendliness and conscientiousness. They then examined the correlations among friendliness measures (self-reports, peers' and parents' reports, and objective behaviors) separately for subjects high and low in self-reported consistency. In accordance with predictions, intercorrelations of friendliness measures were higher for the high consistency group than for those declaring that they were low in consistency. That is, reported consistency moderated the relation between trait indexes and behavior. However, this procedure did not yield the predicted differences in intercorrelations for conscientiousness. In addition, the findings were not replicated by Chaplin and Goldberg (1985) or Paunonen and Jackson (1985).

Guided by this approach, Zuckerman et al. (1988) demonstrated that self-reported consistency as well as subjective trait importance moderates cross-situational consistency. If the individual reports that he or she is highly consistent and the trait has high relevance, then there is cross-situational consistency in behavior and a relation between trait measures and actions. These investigators recommend that psychologists search for an array of moderator variables; predictions of behavior from traits will then be enhanced.

The Template Matching Technique

Subsequently, Bem and Funder (1978) introduced a descriptive system of measurement that could be used to take advantage of the ability to predict our own behavior in particular situations. Their approach, termed the **template-matching technique**, attempts to match personality to a specific template of behavior. To employ the technique, one must specify how a person would behave in a particular situation without any information about the particular person. For example consider the question, "Should Cathy see the movie *The Hurt Locker*?" Perhaps the best way to guide Cathy would be to describe the movie in terms of how several hypothetical people might react to it. People who are squeamish might enjoy the movie but have bad dreams about it for a few nights. People with certain political beliefs might not like it because it presents a specific perspective about our involvement in wars. Cathy can now predict her own reaction to the movie by matching her characteristics with this set of "templates" that have been provided for her.

Bem and Funder (p. 486) proposed that situations can be characterized as sets of template-behavior pairs, with each template being a personality description of how an idealized type of person is specifically expected to behave in that setting. The probability that a particular person will behave in a particular way in a situation will be a function of the match between his or her characteristics and the template. For example, if Cathy's personality characteristics matched the template for those who would hate *War Correspondent*, then she might be best advised to avoid it.

The experiments by Bern and Funder indicated that by asking the appropriate question, it is possible to predict the behavior of more of the people more of the time. This research acknowledged that there are personality characteristics that aid in the prediction of behavior in particular situations and is consistent with the findings of Bem and Allen. The difficulty with this approach is that there are so many potential combinations of persons and situations.

Aggregation Techniques

The fact that behavior varies with situations suggests a strategy for reducing the variability contributed by the situation and maximizing the variability contributed by the person—namely, by averaging, or aggregating, behavior across different situations. This is essentially the strategy used in the development of objective personality tests, which typically have large numbers of items. In general, the larger the number of items, the more reliable the test. For example, each item of the MMPI scale of depression can be assumed to tap a generalized

template-matching technique Bem and Funder's measurement of personality that matches individuals with ideal types (those that are most likely to behave in a given manner in a given situation) to predict specific behaviors.

dimension of depression and also a reaction specific to that item. By using a large number of items, the influence of any single item relative to the general dimension of depression is reduced, and the reliability is thereby enhanced. Epstein (1979, 1980) has cogently argued that situations are analogous to questionnaire items, and that one can enhance the reliability of trait measures and their intercorrelations by averaging across situations.

There has been some controversy regarding the implications of this increased reliability for trait correlations when aggregated over many different situations, for aggregation seems to acknowledge that behavior in a specific situation cannot be predicted from a trait measure. However, a number of investigations have shown that aggregation procedures improve predictions and contribute to stronger trait relationships (Cheek, 1982; Rushton, Brainerd, and Pressley, 1983). For example, the correlation between self-ratings and ratings by fraternity peers on a number of personality dimensions increases as a function of the number of items being rated and the number of raters. When rated by one peer in one situation, the correlation tends to be about .29; when there are three raters for three items, the correlation tends to be about .44.

Measurement Error

Aggregation has been shown to make a difference in the implications of the classic series of studies conducted in the 1920s (Hartshorne and May, 1928, 1929; Hartshorne, May, and Shuttleworth, 1930). This large longitudinal study of honesty remains one of the most thorough and widely cited pieces of research in the field (see Chapter 12). Over the course of six years, a national sample of eight thousand children was repeatedly evaluated on a series of measures of honesty which included cheating during a game, cheating at school, cheating on a take-home exam, taking money, lying, and falsifying records. Epstein (1979) noted that this study is widely cited as evidence that personality is not general because honesty in any specific situation was not found to be a good predictor of honesty in any other specific situation. What is seldom mentioned, however, is that when several measures of honesty are combined into a single score, honesty at one point in time and across situations becomes a very good predictor of honesty at another time and across situations. In sum, the problems of inconsistency across situations and of instability over time may both result from measurement error. More reliable indicators can be created by averaging together behaviors in several situations.

Trait Psychology Revisited

It would now be worthwhile to review the various approaches that have already been examined in this chapter. First, we presented the work of traditional trait psychologists who felt that personality measures accurately assess personality traits. Next, Mischel's challenge to personality tests was presented. Although it appeared to many psychologists that personality was neither stable over time nor consistent across situations, it was also suggested that most people do perceive stable and general personality patterns. Bem and Allen, Bem and Funder, and Epstein have now forced us to reconsider whether the notion of traits was ever completely wrong in the first place.

Again there is a paradox. On the one hand, few people seriously deny the importance of personality characteristics. On the other hand, there is still little evidence that personality tests can predict behavior in particular situations. Nevertheless, many psychologists remain unconvinced by Mischel's critique of trait psychology and believe that personality dimensions can be demonstrated to be meaningful predictors of behavior. In a strong defense of traits and the personality tests used to measure them, it has been acknowledged that poor research does not support the existence of traits but that many well-conducted studies are supportive (Hogan, DeSoto, and Solano, 1977). For example, Gough (1965) demonstrated that the sociability scale of his inventory correlated .73 with delinquency in a study of over ten thousand youths. Other investigators have reported that the creativity of architects as assessed by other architects' ratings can be predicted very well on the basis of a few personality variables (Hall and MacKinnon, 1969).

There is also evidence that behavior patterns are stable. Some studies, in which people's self-reports are monitored over the years, have found that people's views of themselves remain constant. However, consistency in self-perception may not mean consistency in behavior. Without resorting to self-report studies, there are well-conducted longitudinal studies that demonstrate the stability of behavioral patterns (see also Chapter 13). Perhaps the most important of these used a set of data maintained at the University of California, Berkeley. Subjects in this study were first evaluated in junior high school, then again in senior high school, and once again when they were in their midthirties. In all, persons in the sample were rated on 114 personality variables by different observers at three different points in time. The results clearly demonstrated that many personality characteristics are stable. Indeed, between junior and senior high school, nearly 60 percent of the personality characteristics measured remained consistent.

A European study on aggressive behavior in boys produced even more convincing results with regard to personality stability. Over two hundred boys were rated on their tendency to start fights and other characteristics of aggressive behavior. The ratings were obtained when the boys were in the sixth grade and then again three years later. In each case, at least three raters were used. The results showed that aggressive tendencies were quite stable over the three-year period, with a correlation of .66 across the two time periods. When error of measurement was corrected, the correlation became even stronger, reaching a level of .80 (Olweus, 1973, 1974, 1977*a*, 1977*b*).

Finally, Funder (1989, 1991; Funder and Colvin, 1991) has forcefully defended the concept of traits. He has shown that if different people who know an individual well rate that individual's personality traits, there is considerable agreement among them. This is true even when the people doing the rating know the individual from different situations in his or her life. For instance, agreement on the item "enjoys aesthetic impressions" had a correlation of .64. In addition, Funder points out there are numerous correlations between trait ratings and specific behaviors. For instance, those individuals who took longest to complete the tests in his studies had been described by acquaintances as "tending to interpret basically simple situations in complex ways." Similarly, those who took the least time had been described by acquaintances as irritable, over-reactive, and prone to give up in the face of adversity.

states Transitory conditions of the organism such as emotions and moods that vary in intensity and fluctuate over time.

traits Enduring individual differences in behavior dispositions. These are typically thought to be arranged as a continuous scale.

State versus Trait

One factor that has been responsible in part for the low correlations between some trait measures and actual behavior is the failure to distinguish between states and traits. **States** refer to transitory conditions of the organism, to emotions and moods that vary in intensity and fluctuate over time, such as anger, panic, depression, and boredom. **Traits** refer to more enduring individual differences in behavior disposition, in the individual's *tendency* to be angry, afraid, depressed, or bored. A clearer understanding of the manifestations of a trait and of the relationship of the trait to behavior is obtained when a state measure is distinguished from a trait measure. This is best exemplified by the extensive amount of research that has been carried out on the distinction between state anxiety and trait anxiety (Spielberger, 1971*a*, 1971*b*; Spielberger, Gorsuch, and Lushene, 1970).

The difference between state and trait anxiety is made evident in the different ways in which they are assessed. Items on the state anxiety scale are answered in terms of the *intensity* of the individual's feelings and how the person feels at the moment. For instance, for the item "I am tense," the individual is given a choice among four alternatives ranging from "Not at all" to "Very much so." In contrast, items on the trait anxiety scale are answered in terms of the frequency of the feeling and how the individual generally feels. For example, for the item "I take disappointments

Everyone feels anxious some of the time; that is state anxiety. However, some people are anxious far more often than others; that is trait anxiety.

so keenly that I can't put them out of my mind," the individual's four choices range from "Almost never" to "Almost always."

Spielberger and his associates (1970, p. 3) defined trait anxiety in terms of "differences between people in a tendency to respond to situations perceived as threatening with elevations in state anxiety intensity." Whether anxiety will be elicited at any particular time and its manifestation in behavior depends on the strength of trait anxiety and the presence of situational stimuli that will evoke state anxiety. Furthermore, the influence of trait anxiety and of external stimulus stressors are mediated by the process of *cognitive appraisal*. If a stimulus is perceived as nonthreatening (e.g., "He wants to get back at me but he's powerless"), then no anxiety is elicited. If the stimulus is appraised as threatening, then the individual may respond with feelings of anxiety or automatically react with defensive behaviors that minimize the experience of anxiety. Extensive research has been carried out on the process of cognitive appraisal, and it has been shown that it is possible to reduce physiological and other anxiety indicators by manipulating the cognitive appraisal of an ordinarily highly threatening stimulus. For example, people exposed to a stressful film depicting the subincision rites of a preliterate culture were asked to perceive the film within an anthropological context. This introduces a method of coping with anxiety similar to that of intellectualization, which lets the viewers detach themselves from a threat that is otherwise reacted to in personal terms (Lazarus and Alfert, 1964; Lazarus and Averill, 1972). In Spielberger's terms, the cognitive appraisal that mediates state anxiety can be modified by situational, experimentally induced, defensive approaches or by variations in trait anxiety and accompanying defensive tendencies.

In accordance with the theoretical attributes of state and trait anxiety, there is a substantial amount of research indicating that trait anxiety is a stable measure, while state anxiety varies markedly with changes in situational stresses (Lamb, 1978). There is also evidence that individuals who differ in trait anxiety also differ, as expected, in the intensity of their state anxiety reactions to stressors, particularly to psychological rather than physical threats. These, along with other relationships indicating the value of the state-trait distinction for the study of anxiety, suggest that a similar distinction can be fruitfully applied in helping clarify the trait-situation interaction for other personality attributes. Eliminating state components from the trait measure and taking state changes into account results in more stable trait indicators and stronger relationships between traits and behaviors. Assessing both trait and state also helps reduce measurement error.

Attribution theory, introduced earlier in this chapter, also has implications for the trait-state distinction. Chaplin, John, and Goldberg (1988) asked subjects to rate a series of acknowledged traits and states on a variety of characteristics. They found that stability over time, consistency of behavior, and perceptions of internal or personal causality were linked with traits, whereas instability, inconsistency, and external causality were associated with states. Hence, an anxious person is perceived as always anxious in a variety of situations and that reaction is caused by the self. However, when a person reacts with anxiety in a specific situation, then that reaction is perceived to be temporary, different than in other situations, and is caused by something external to the person. Chaplin et al. (1988) suggest that trait perceptions enable people to predict behavior over time and situations and thus lead to social actions based on the person (e.g., seek out or avoid people with that characteristic). On the other hand, state reactions, being unstable over time, cannot be predicted from past experience with the person, but may be controlled by manipulating the situation.

Conceptualizing Traits

A person's behavior in a given situation can be thought of as a "final common pathway" resulting from the interaction of many factors, just as many other events in the world are the final product of many interacting causal contributors. (Consider, for example, that many diseases, such as cancer, arise from complex interactions of genetic predispositions, environmental pollutants, and aspects of a person's lifestyle—such as whether or not they smoke.) In sum, while personality traits may be imperfect for predicting behavior in a given situation, they are not meaningless psychological constructs.

Summary

1. Sheldon contended that three body types-labeled *mesomorphic*, *endomorphic*, and *ectomorphic*—are related, respectively, to energetic, relaxed, and introverted personality types. Typologies no longer play a central role in psychology because they fail to capture the complexity of personality.

2. Trait psychologists believe that characteristics of individuals are general over situations and endure over time. Cattell distinguished a number of different traits and sources of traits, while Eysenck suggested three higher-order types of traits: neuroticism, introversion-extroversion, and psychoticism.

3. The Big Five model of personality traits has come to be widely accepted as the basic structure of personality. These five traits include neuroticism versus emotional stability, extraversion, openness to experience, agreeableness, and conscientiousness. However, not all personality theorists believe there are only five basic personality traits. Some models use three traits, some use sixteen, and some use six basic personality traits.

4. *Attribution theorists* believe that observers tend to see the behavior of others as caused by trait characteristics and their own behavior as due to environmental conditions. This disparity may be due to the greater information held by actors about themselves or to the differential perceptual focuses of actors and observers.

5. *Interactionists* contend that behavior is governed by both the properties of the person and the situation in which that person is acting. The *transactional* approach emphasizes the reciprocal influence of the person and the environment on each other. Interactionism, however, typically refers to the fact that variation in behavior is best accounted for by considering both the person and the environment simultaneously.

6. Individuals differ in the consistency of their behavior across situations. In addition, within any individual there may be consistency in some characteristics and inconsistencies in others across different settings.

7. *The template-matching technique* identifies ideal types who would be most likely to behave in a given manner in a given setting. Individuals can then be matched with this ideal type to predict their behavior in that setting.

8. *Traits* are distinguished from *states* in that states are unstable, temporary conditions of the organism. Anxiety is considered to be both a trait and a state. As a state, anxiety is assessed with queries about current intensity of feeling; as a trait, it is measured with questions about frequency and generality across situations.

9. Behavior appears to be more consistent over time and across situations when many instances are sampled. Small samples of behavior, like tests with an insufficient number of items, result in error of measurement, which reduces correlations between the behaviors under study.

Key Terms

ascending reticular activating system (p. 160)
attribution theory (p. 164)
behavioral activation system (p. 160)
behavioral inhibition system (p. 160)
Big Five (p. 161)
continuous distribution (p. 159)
facets (p. 162)
factor analysis (p. 159)
Five Factor Model (p. 161)

fundamental attribution error (p. 165)
interactionist position (p. 166)
lexical hypothesis (p. 161)
moderator variables (p. 167)
situational critique (p. 164)
states (p. 170)
template-matching technique (p. 168)
traits (p. 170)
types (p. 158)

Thought Questions

1. Is your behavior consistent across different settings? Can you think of some behaviors that are consistent and others that are inconsistent?

2. Answer the above question about any friend. Why might the question be difficult to answer about another person, and what implications might this have for how you perceive that individual?

3. Create a personality template for a good teacher or businessperson. Now predict who among your friends best fits this description.

4. Consider where you are likely to place on each of the five major personality traits. Are you high, medium, or low on extraversion? Are you high, medium, or low on neuroticism? Are you high, medium, or low on agreeableness? Are you high, medium, or low on conscientiousness? Are you high, medium, or low on openness to experience?

5. Why would we expect to find a moderate positive correlation between state and trait anxiety?