

- Roese, N. J., & Vohs, K. D. (2012). Hindsight bias. *Perspectives on Psychological Science*, 7, 411–426.
- Rusbult, C. E., & Martz, J. M. (1995). Remaining in an abusive relationship: An investment model analysis of nonvoluntary dependence. *Personality and Social Psychology Bulletin*, 21, 558–571.
- Schwarz, N., & Clore, G. L. (1983). Mood, misattribution, and judgments of well-being: Informative and directive functions of affective states. *Journal of Personality and Social Psychology*, 45, 513–523.
- Simon, H. (1955). A behavioural model of rational choice. *Quarterly Journal of Economics*, 69, 99–118.
- Simonsohn, U. (2010). Weather to go to college. *Economic Journal*, 120, 270–280.
- Simonson, I. (1989). Choice based on reasons: The case of attraction and compromise effects. *Journal of Consumer Research*, 16, 158–174.
- Simonson, I. (1992). The influence of anticipating regret and responsibility on purchase decisions. *Journal of Consumer Research*, 19, 105–118.
- Simonson, I., & Nye, P. (1992). The effect of accountability on susceptibility to decision errors. *Organizational Behavior and Human Decision Processes*, 51, 416–446.
- Slovic, P. (2007). “If I look at the mass I will never act”: Psychic numbing and genocide. *Judgment and Decision Making*, 2, 79–95.
- Slovic, P., Finucane, M. L., Peters E. & MacGregor, D. G., (2007). The affect heuristic. *European Journal of Operational Research*, 177, 1333–1339.
- Thaler, R. H., & Sunstein, C. R. (2009). *Nudge: Improving decisions about health, wealth, and happiness*. New Haven, CT: Yale University Press.
- Toplak, M. E., West, R. F., & Stanovich, K. E. (2011). The cognitive reflection test as a predictor of performance on heuristics-and-biases tasks. *Memory and Cognition*, 39, 1275–1289.
- Tversky, A., & Kahneman, D. (1973). Availability: A heuristic for judging frequency and probability. *Cognitive Psychology*, 5, 207–232.
- Von Neumann, J., & Morgenstern, O. (1944). *Theory of games and economic behavior*. Princeton, NJ: University Press.
- Wansink, B., Kent, B. J., & Hoch, S. J. (1998). An anchoring and adjustment model of purchase quantity decisions. *Journal of Marketing Research*, 19, 71–81.
- Wilson, T. D., & Schooler, J. W. (1991). Thinking too much: Introspection can reduce the quality of preferences and decisions. *Journal of Personality and Social Psychology*, 60, 181–192.
- Wilson, T. D., & Gilbert, D. T. (2005). Affective forecasting: Knowing what to want. *Current Directions in Psychological Science*, 14, 131–134.
- Winkielman, P., Schwartz, N., & Belli, R. F. (1998). The role of ease of retrieval and attribution in memory judgment: Judging your memory as worse despite recalling more events. *Psychological Science*, 9, 124–126.
- Zajonc, R. B. (1980). Feeling and thinking: Preferences need no inferences. *American Psychologist*, 35, 151–175.

Chapter 20

Personality

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Social psychology focuses on interpersonal phenomena: how the individual's behavior is influenced by other people, present or implied. As a field, social psychology tends to fragment into broad topic areas that reflect particular “contents” of behavior: qualities such as aggression, helping, and interpersonal attraction. Sometimes the contents under examination are intrinsically interpersonal in nature, as in those three examples. Sometimes the contents are fully within the individual (e.g., attitudes), but the focal interest of the social psychologist is how these aspects of the individual are influenced by, or relate to, other people. In contrast, personality psychology focuses on qualities organized within the individual, although those internal qualities are often displayed in actions that involve other people.

The stereotype of personality psychologists is that they focus on individual differences. Some people assume for that reason that they care *only* about individual differences. That actually isn't true. Personality psychologists focus partly on things that make people different from each other, but partly on things that make people the same—shared structures and dynamics. I have used the phrase *intrapersonal functioning* to refer to these shared internal properties (Carver & Scheier, 2008). Allport (1961), far more eloquently, called them a dynamic organization of psychological systems within each person that create the person's pattern of behaviors, thoughts, and feelings.

Statements about the nature of intrapersonal functioning often represent statements about the nature of people's core motivations. They are statements about what forces are at the center of people's actions, feelings, and thoughts over extended periods of time and diverse circumstances. For example, some views of personality hold that people's core motives concern relationships with significant others. Some views assume that people's core motives concern predicting and adapting better to the world. Some assume that people's central motives are the same as those of any other biological creature: obtaining the necessities of life, avoiding danger, and reproducing.

To some extent, assumptions about core motives are captured in the phrase *human nature*. Personality psychologists, because they focus on the whole person as an entity and how that person functions over time and situations, are interested in views that help capture the essence of human nature. Many people use the phrase *human nature*, but what really *is* human nature? The answer depends on whom you ask.

Personality psychologists are not the only ones interested in such issues, of course. The same issues arise in social psychology but usually more obliquely. As social psychologists set out to study a given phenomenon, they implicitly (and sometimes explicitly) adopt one or another set of assumptions about human nature and its core motivations. They implicitly assume some model of personality as a lens for looking at how people influence each other. In this way, some view of personality (even if it consists more of a sketch of assumptions than an explicit theory) forms the underlying basis for an analysis of social psychological phenomena. This is one place where personality psychology intersects with social psychology. Because there almost always is an implicit view of human nature behind a social psychological explanation, social psychology almost always has personality as a silent partner in the explanatory process.

A second point of intersection between these fields returns us to the familiar picture of personality as individual differences. It is possible for a social situation to be so potent that it forces everyone's behavior to be essentially the same, but such situations are rare. Far more common are situations that permit some degree of variation in behavior, even while exerting their own influence. When there is room for variability in behavior, it is virtually certain that part of that variability will stem from personality. Some people are more affected than others by any given situational pressure. The people who are most affected are not necessarily the same from one situation to the next, because the nature of the pressure varies across situations. Thus, situational pressures interact with personality, often in subtle ways. A secondary question that always arises across the diverse content areas of social psychology is what kinds of individual differences make the phenomenon under study more likely or less likely to occur (Leary & Hoyle, 2009).

This chapter describes some of the viewpoints that are influential in today's personality psychology. Some of them have been around for a very long time; others are more recent. Because personality psychology tends to evolve more slowly than social psychology, even the "recent" views have roots in older ideas. This chapter surveys these viewpoints in broad strokes. A good deal of detail is left out (for a more detailed look, see Carver & Scheier, 2008). In each case, however, an effort has been made to portray that viewpoint in a way that allows it to serve as a backdrop for thinking about the phenomena of social psychology.

Trait Psychology and the Five-Factor Model

The easiest starting point for personality is probably the trait concept. The essence of this construct is ancient. The trait is both a common-sense concept and a scientific concept. Traits are dimensions of variability, which are presumed to be grounded within the person and which are reflected in behaviors, thoughts, and emotions. All views of personality necessarily incorporate some ideas about traits, because traits are the dimensions on which individual differences exist. Although traits thus are implicit in all of personality psychology, one segment of the field has traditionally focused more on traits than have others.

The people who work in this tradition have focused particularly on the question of what traits are fundamental and what ones are less so. The process of deciding which traits are basic, along with the secondary question of how best to measure those traits and place people on the dimensions of their variability, is the crux of this approach to personality. This approach has generally been more concerned with individual differences than with core motives and dynamics, though even that statement is not universally true (e.g., Eysenck, 1967, 1986, addressed both themes with equal enthusiasm).

There has long been a division of opinion among trait psychologists about how best to approach the question of what traits are most basic. Eysenck (1967, 1986) argued that theorists should begin with well-developed ideas about what they want to measure and then try to measure those qualities well (this is referred to as a theoretical path of measure development). Cattell (1965, 1978) argued that researchers should determine empirically what traits underlie personality (an empirical path) and not impose theoretical

preconceptions. In this view, deciding first what traits are basic tempts you to force reality to fit your ideas. Today's trait theorists tend to favor Cattell's view on this issue in principle (Goldberg, 1993), but there is disagreement about how faithfully they have actually adhered to it in practice (Block, 1995).

The effort to let reality tell you what traits are basic is fairly complicated. It requires gathering large numbers of observations of diverse reflections of traits and then determining where there are commonalities and what those commonalities mean. Early efforts made use of the idea that languages arose in human cultures partly to convey information about what people are like. The descriptive words in various languages thus should provide a rich source of evidence about what traits matter. Specifically, important traits should be reflected in more words (this is called the lexical criterion of importance).

This is a good start, but trying to sort through thousands of descriptive words and determine their relationships to each other was a logistical nightmare. Two things changed that: the development of a methodological technique called factor analysis and the development of computers (early factor analyses were done slowly and painfully by hand, and it was hard to be sure errors did not creep in). Factor analysis allows researchers to locate commonalities easily among thousands of observations. Commonalities among ratings on descriptors are believed to reflect traits. A trait might be reflected very strongly in some descriptors and less so in many more. Even those limited reflections represent evidence that the trait is important, though, because it is implicated in many parts of the lexicon.

Despite different starting points taken by various people, a substantial consensus has emerged about what traits are basic, at least at a broad level of analysis. The emerging consensus is that the structure of personality incorporates five superordinate factors, which often are called the five-factor model or the "big five" (Goldberg, 1981; McCrae & Costa, 2003; Wiggins, 1996). The five factors are most commonly known by the labels extraversion, neuroticism, agreeableness, conscientiousness, and openness to experience (McCrae & Costa, 2003). (Some people find it easier to remember them by using the acronyms OCEAN or CANOE.)

In most views of the five factors, each is composed of subordinate traits with narrower properties. Typically, the overall factor is formed from facet scales that represent the narrower traits. If the facets that contribute to the five broad traits are considered separately, the picture is more nuanced, because the facets play different roles in behavior. (It also is far more complex than is the picture that considers only the five superordinate factors.)

Consensus on the five-factor view of individual differences does not mean unanimity. There remain staunch advocates of other frameworks. There are two three-factor models (Eysenck, 1975, 1986; Tellegen, 1985), in which elements of conscientiousness and agreeableness blend into traits that are called, respectively, psychoticism and constraint. There also is a six-factor model that adds honesty/humility to the big five (Ashton et al., 2004), and an alternative-five model (Zuckerman et al., 1993), in which different facets of the five factors are emphasized. There have also been efforts to distill the five factors down to two (DeYoung, 2006; DeYoung, Peterson, & Higgins, 2001; Digman, 1997).

The next sections describe the five factors in more detail, starting with the two that have been studied the longest and about which the greatest consensus exists. These two are also part of the three-factor models, as well as the six-factor and alternative-five models.

The Two Most Agreed-Upon Factors: Extraversion and Neuroticism

The first factor is extraversion. As is true of several traits in the five-factor model, extraversion has different emphases in different measures. Sometimes extraversion is viewed as being based in assertiveness, sometimes in spontaneity and energy. Sometimes it is based in dominance, confidence, and agency (Depue &

Collins, 1999), sometimes in a tendency toward positive emotions (indeed, Tellegen, 1985, calls it positive emotionality). Extraversion is often thought of as implying a sense of sociability (Watson, Clark, McIntyre, & Hamaker, 1992), but some argue that the sociability is a byproduct of other features of extraversion (Lucas, Diener, Grob, Suh, & Shao, 2000). Others see the sense of agency and the sense of sociability as being two separate facets of extraversion (Depue & Morrone-Strupinsky, 2005).

Whether extraversion concerns true sociability or not, it does appear to concern having social impact (Jensen-Campbell & Graziano, 2001). For example, extraverted men interact better with women they don't know than do introverts (Berry & Miller, 2001), and extraverts have the firm handshake that conveys confidence (Chaplin, Phillips, Brown, Clanton, & Stein, 2000). The desire for social impact can have a more problematic side, however. For example, extraverts are less cooperative than introverts when facing a social dilemma over resources (Koole, Jager, van den Berg, Vlek, & Hofstee, 2001).

The second factor, neuroticism, concerns the ease and frequency with which the person becomes upset and distressed. Moodiness, anxiety, and depression reflect higher neuroticism. Neuroticism scales often include facets pertaining to hostility and other negative feelings, but there is also some disagreement about whether those particular negative feelings might really belong in another factor (Carver, 2004; Jang et al., 2002; Peabody & DeRaad, 2002; Saucier & Goldberg, 2001). In any case, it is generally agreed that the core of neuroticism is vulnerability to subjective experiences of anxiety, worry, and general distress.

Neuroticism also has a clear impact on social behavior. Neuroticism relates to more difficult interactions among married partners (Donnellan et al., 2004) and less satisfaction in the relationship. People who are highly neurotic are also more likely to distance themselves from their partners after a negative event (Bolger & Zuckerman, 1995). Neuroticism impairs academic performance (Chamorro-Premuzic & Furnham, 2003), and it predicts a negative emotional tone when writing stories about oneself (McAdams et al., 2004).

Agreeableness, Conscientiousness, and Openness

The next factor is agreeableness. Agreeableness as a dimension is often characterized as being broadly concerned with maintaining relationships (Jensen-Campbell & Graziano, 2001). Agreeable people are friendly and helpful (John & Srivastava, 1999), empathic (Graziano, Habashi, Sheese, & Tobin, 2007), and able to inhibit their negative feelings (Graziano & Eisenberg, 1999). Having a high level of this trait seems to short-circuit aggressive responses (Meier, Robinson, & Wilkowski, 2006), because agreeable people get less angry over others' transgressions than do less agreeable people (Meier & Robinson, 2004), and they are less likely to seek revenge after being harmed (McCullough & Hoyt, 2002).

At the opposite pole is an antagonistic quality, verging on hostility (this is the other place where feelings of anger may belong). People low in agreeableness use displays of power to deal with social conflict more than do others (Graziano, Jensen-Campbell, & Hair, 1996) and are more prone to antisocial behavior (Miller, Lynam, & Leukefeld, 2003).

The most commonly used label for the next factor is conscientiousness. However, this label does not fully reflect the qualities of planning, persistence, and purposeful striving toward goals that are part of it (Digman & Inouye, 1986). Other suggested names include constraint and responsibility, reflecting qualities of impulse control and reliability. Precisely what qualities are included in this trait varies considerably across measures (Roberts, Walton, & Bogg, 2005).

Conscientiousness has received a good deal of attention in recent years. Among the findings: Conscientious people are less likely to try to steal someone else's romantic partner and are less likely to be lured away (Schmitt & Buss, 2001). Conscientiousness relates to more responsive parenting of young children (Clark, Kochanska, & Ready, 2000) and to use of negotiation as a conflict-resolution strategy (Jensen-Campbell & Graziano, 2001).

Conscientiousness also predicts various kinds of health-related behaviors (Bogg & Roberts, 2004; Roberts et al., 2005). Indeed, conscientiousness in childhood has been related to health behaviors 40 years later (Hampson, Goldberg, Vogt, & Dubanoski, 2006). Greater conscientiousness predicts avoidance of unsafe sex (Trost, Herbst, Masters, & Costa, 2002) and other risk behaviors (Markey, Markey, & Tinsley, 2003). A recent meta-analysis links conscientiousness to longer life (Kern & Friedman, 2008), perhaps because it is associated with fewer risky behaviors and better treatment adherence. Consistent with this, conscientiousness relates to lower levels of substance abuse (Chassin et al., 2004; Lynam et al., 2003; Roberts & Bogg, 2004; Walton & Roberts, 2004).

Agreeableness and conscientiousness appear to have an important property in common. Both traits suggest a breadth of perspective on life. Many manifestations of conscientiousness imply broad time perspective: taking future contingencies into account. Agreeableness implies a broad social perspective: taking the needs of others into account.

The fifth factor is one about which there is probably the most disagreement regarding content. The most widely used label for it is openness to experience (Costa & McCrae, 1985). Some measures (and theories) imbue this factor with greater overtones of intelligence, however, terming it intellect (Peabody & Goldberg, 1989). It involves curiosity, flexibility, imagination, and willingness to immerse oneself in atypical experiences (for review of its involvement in social experience, see McCrae, 1996). Openness to experience has been found to predict greater engagement with the existential challenges of life (Keyes, Shmotkin, & Ryff, 2002), to more favorable interracial attitudes (Flynn, 2005), and to greater sexual satisfaction in marriage (Donnellan et al., 2004).

The Five-Factor View in Sum

In the five-factor view of personality, people can be placed on each of these dimensions according to their characteristic patterns of thoughts, feelings, and actions. The aggregation of information about the person resulting from these placements gives a reasonably good snapshot of what that person is like. In fact, the trait perspective has been called the "psychology of the stranger" (McAdams, 1992), in part because it provides the kind of information that would be important if you knew nothing about a person.

On the other hand, the phrase "psychology of the stranger" also reflects the view that this perspective does not say much about the dynamic aspects of personality. Labeling a person as sociable or dominant gives a name to what you see, but it doesn't tell you much about how or why the person acts that way. Others have similarly argued that this model says little about how the factors function or how they map onto any picture of human nature (Block, 1995).

This has changed to a considerable extent over the past two decades. A great deal more information has been collected on how traits function in life settings. Furthermore, several of the trait dimensions have also been linked to another model bearing on personality in which dynamics and process play a much larger role. This model is described next.

Biological Process Model

What might be characterized as a biological process model is an increasingly influential view of personality. It has roots in several places. One of them is Eysenck's (1967, 1975) version of the trait perspective. Eysenck consistently tried to ground his ideas about extraversion and neuroticism in a picture of brain functions.

Another starting point is a view of early childhood temperaments. Temperaments are biological systems that affect broad aspects of behavior and form the basis of personality. For example, one basic human function is seeking out the things we need to stay alive and prosper, such as food, shelter, and social connection; this important function may be reflected in personality as individual differences in incentive sensitivity or extraversion. Some personality psychologists have long been interested in temperaments (e.g., Buss & Plomin, 1975), but most work on temperaments has been done by developmental psychologists (e.g., Derryberry & Rothbart, 1997; Rothbart & Bates, 1998; Rothbart & Posner, 1985; Rothbart, Ahadi, & Evans, 2000; Rothbart, Ahadi, Hershey, & Fisher, 2001; Rothbart, Ellis, Rueda, & Posner, 2003).

Another basis for the development of a biological process model of personality is the increasing influence of a family of theories pertaining to animal behavior, psychopharmacology, and neuroscience. These viewpoints emphasize the continuity between humans and other animal species. They also focus on information obtained by research tools involving both manipulation of the nervous system by chemical means and observation of activities of the nervous system by imaging techniques.

From this biological viewpoint, it is important to understand the fundamental properties of animal self-regulation and how those properties are manifested both in the nervous system and in human personality. Three basic tendencies are considered in this section. By themselves, they yield considerable complexity. Two of them are organized tendencies to approach situations and objects that are desirable (e.g., food) and to avoid situations and objects that are dangerous (e.g., predators). These organized tendencies exist for all animals, and the regulation of these basic processes represents a core activity for humans as well.

Fitting that idea, a number of theorists have posited basic approach and avoidance temperaments as key aspects of the organization of the nervous system (e.g., Caspi & Shiner, 2006; Caspi et al., 2005; Davidson, 1992, 1998; Depue & Collins, 1999; Elliott & Thrash, 2002; Fowles, 1993; Gray, 1982, 1994a, 1994b; Rothbart & Bates, 1998). Most theorists of this group believe that one set of brain structures is differentially involved in the processes by which animals organize the approach of incentives and that a second set of brain structures is involved in the processes by which animals organize the avoidance of threats.

Approach

The structures involved in approach have been given several names: activation system (Cloninger, 1987; Fowles, 1980), behavioral engagement system (Depue, Krauss, & Spoont, 1987), behavioral facilitation system (Depue & Iacono, 1989), and behavioral approach system (Gray, 1987, 1990, 1994a, 1994b), and they are often abbreviated BAS. You might think of this system as regulating the psychological gas pedal, moving you toward what you want. It's a go system, a reward-seeking system (Fowles, 1980).

The set of brain structures underlying this system is presumed to be involved whenever a person is pursuing an incentive. It is likely that there is differentiation such that certain parts of the brain are involved in the pursuit of food, others in the pursuit of sex, and so on (Gable, 2006; Panksepp, 1998). But some believe that the separate parts also link up to an overall BAS. Thus, the BAS is seen as a general mechanism to go after things you want. BAS doesn't rev you up in neutral, though, without an incentive in mind (Depue & Collins, 1999). It's engaged only in the active pursuit of incentives. The BAS is also held to be responsible for many kinds of positive emotions (e.g., hope, eagerness, and excitement), emotions that reflect the anticipation of obtaining incentives.

From temperaments emerge traits. Here is one place where the emerging biological process models intersect with the trait approach. A number of people have linked the trait of extraversion to the approach temperament (Carver, Sutton, & Scheier, 2000; Caspi & Shiner, 2006; Caspi et al., 2005; Depue & Collins,

1999; Elliott & Thrash, 2002; Rothbart & Bates, 1998). That is, some people view extraversion as reflecting the sensitivity of a general approach system. In this view, extraverts have a large appetite for incentives (particularly, though not exclusively, social incentives), whereas introverts are less drawn to them.

Avoidance

The structures involved in avoidance of threat have also received several names: Gray (1987, 1990, 1994a, 1994b) initially suggested the label behavioral inhibition system (BIS). Others have referred to an avoidance system (Cloninger, 1987) or withdrawal system (Davidson, 1988, 1992, 1995). Activity in this system may cause people to inhibit movement (especially if they are currently approaching an incentive) or to pull back from what they just encountered. You might think of this system as a psychological brake pedal, a *stop* system. Alternatively, you might think of it as a *throw-it-into-reverse* system.

The avoidance temperament is responsive to cues of punishment or danger. When this system is engaged, the person may stop and scan for further cues about the threat, or the person may pull back. Since this is the system that responds to threat, danger, or other to-be-avoided stimuli, this system is also thought to be responsible for feelings such as anxiety, guilt, and revulsion, feelings that reflect anticipation of aversive stimuli.

Here again the biological process models intersect with the trait approach. A number of people have linked the trait of neuroticism to the avoidance temperament (Carver et al., 2000; Caspi & Shiner, 2006; Caspi et al., 2005; Rothbart & Bates, 1998). This connection is consistent with the view that anxiety is the emotional core of neuroticism. Some people now view levels of trait neuroticism as reflecting the sensitivity of a general avoidance or withdrawal system. In this view, those high in neuroticism are very sensitive to punishment, whereas those lower in neuroticism are more indifferent to it.

Effortful Control

Another temperament posited by developmental theorists (e.g., Rothbart, Ellis, & Posner, 2004; Rothbart & Posner, 1985) is generally termed effortful control (see also Kochanska & Knaack, 2003; Nigg, 2000, 2003, 2006; Rothbart & Rueda, 2005). Effortful control develops more slowly than the approach and avoidance temperaments (Casey, Getz, & Galvan, 2008). It is superordinate to both approach and avoidance temperaments, capable of overriding impulses that stem from those more basic temperaments. It thus acts as a supervisory system, if sufficient mental resources are available. The label "effortful" conveys the sense that this is a planful activity, requiring the use of cognitive resources to constrain the tendency to react impulsively.

Effortful control is a construct from developmental psychology, but its features resemble those of adult self-control (Vohs & Baumeister, 2016). Self-control is the ability to override impulses to act, as well as the ability to make oneself initiate or persist in boring, difficult, or disliked activity. Self-control appears to depend on higher executive functions that are grounded in prefrontal cortical areas. Guidance of self-regulation by this temperament provides some muting of emotions (Carver, Johnson, & Joormann, 2009) and permits the organism to plan for the future and to take situational complexities into account in making behavioral decisions.

This temperament also has been linked to the five-factor model, though the connection is more complicated than the connections for approach and avoidance. I noted earlier that agreeableness and conscientiousness both imply breadth of perspective: agreeableness a broad social perspective and conscientiousness a broad time perspective. Consistent with this similarity between these two traits, it has been

suggested that both traits derive from the effortful control temperament (Ahadi & Rothbart, 1994; Caspi & Shiner, 2006; Jensen-Campbell et al., 2002). Effortful control similarly reflects a breadth of perspective, leading the person to be able to override immediate impulses to optimize broader outcomes.

There is at least some evidence suggesting that effortful control relies on brain areas other than those subserving the basic approach and avoidance functions. It is often suggested that the brain structures underlying effortful control evolved more recently than those underlying the basic approach and avoidance functions. To put it in more behavioral terms, the ability to exert self-control reflects an evolutionary advance.

Biological Process View in Sum

The biological process approach to personality is an attempt to ask what functions a living animal needs and how those functions are reflected in personality. Approaching desired incentives and avoiding dangers are primitive necessities, though there is also room for individual variation in the strength of those motivations. These core motives—striving for things you want and avoiding harm—are surely part of human nature. Behavioral tendencies to which these motives lead are part of personality.

Effortful control also serves important biological purposes, though perhaps not as basic as the approach and avoidance temperaments. Effortful control provides the opportunity to gain in ways that are greater than the gains that come from impulse alone. There are times when delay of gratification (or withholding an angry retort) does result in better final results, and it is those outcomes that are made possible by effortful control.

I have not mentioned the research literature bearing on neural correlates of various sorts of mental activity or another research literature bearing on neurotransmitters and the role they play in various classes of behavior. These are very active areas of work, and they are clearly pertinent to the connection between personality and social psychology. However, for present purposes, the points they make are refinements of this general theme: To varying degrees, people seek rewards, avoid threats, and take multiple factors into account in planning their behaviors.

Cognitive Self-Regulatory Models

The next view of personality I will take up is a loose collection of ideas I will refer to as cognitive self-regulatory models. The biological-process view of personality emphasizes the functional systems that are required by a living biological entity. The self-regulatory models emphasize the cognitive processes that are involved in managing behavior. There are some distinct similarities between the two viewpoints, though they have very different starting points.

Goals

Cognitive self-regulatory models have roots in an expectancy-value motivational tradition. Values are qualities that are endorsed or rejected, qualities that are positively valenced or negatively valenced. In today's incarnation of the expectancy-value viewpoint, the operative construct is most likely to be goals (Austin & Vancouver, 1996; Carver & Scheier, 1998; Elliott, 2008; Higgins, 1996; Markus & Nurius, 1986; Moskowitz & Grant, 2009). The term *value* today tends to connote qualities that are relatively abstract

(Schwartz, 1992; Schwartz & Bilsky, 1990); these abstract qualities are realized in behavior by pursuit of more concrete goals, which in turn can be broken down into subgoals.

Diverse goal-based theories hold that it is important to distinguish between motivational processes aimed at moving toward *goals* and those aimed at staying away from *threats* (Carver & Scheier, 1998; Elliott, 2008; Higgins 1996). A desired goal has a positive incentive value that pulls behavior to it. Looming harm or pain has a *disincentive* value that pushes behavior away from it. Sometimes approach and avoidance tendencies conflict with each other, as when approaching a desired incentive also increases threat. Sometimes approach and avoidance processes are mutually supportive, because sometimes attaining a desired incentive will simultaneously forestall something the person wants to avoid.

In goal-based views of personality, understanding the person means (in part) understanding the goals the person has and the values that motivate his or her actions (Markus & Nurius, 1986; Mischel & Shoda, 1995). Many complexities follow from this, including the extent to which people are motivated more by approach versus avoidance goals (e.g., Elliot & Sheldon, 1998; Gable & Berkman, 2008; Higgins & Tykocinski, 1992) and the extent to which people's focal goals are concrete versus abstract in nature (e.g., Liberman & Trope, 2008; Vallacher & Wegner, 1989). More obviously, even within the same behavioral context, people can be in pursuit of very different endpoints; to predict their behavior requires knowing what they are trying to do.

The emphasis on approach and avoidance motivational processes (and the importance of the distinction between these processes) is one respect in which this viewpoint resembles the biological process view. A difference is that this view has generally not been concerned with biological underpinnings of the goal-regulation process.

Expectancies

Consistent with the expectancy-value heritage of this approach, goal-based models also typically incorporate an expectancy construct in some form or other: the sense of confidence or doubt that a given outcome will be attained successfully (e.g. Bandura, 1986; Carver & Scheier, 1998). Not every behavior produces its intended outcome; goal directed efforts can be thwarted by impediments. Under such conditions, people's efforts are believed to be determined partly by their expectancies of success or failure (e.g., Bandura, 1986; Brehm & Self, 1989; Carver & Scheier, 1998; Eccles & Wigfield, 2002; Klinger, 1975; Wright, 1996).

People vary from context to context in their levels of confidence. Some theorists emphasize that many expectancies are domain-specific and even situation-specific. There also are differences among people, however, in their more generalized sense of confidence about life-in-general. This variation is what constitutes the personality dimension of optimism versus pessimism (Carver & Scheier, 2018; Carver, Scheier, Miller, & Fulford, 2009; Scheier & Carver, 1992).

Abandonment and Scaling Back of Goals

Goal-based models often incorporate an element that is less obvious in biological models. When impediments to goal attainment are severe, people sometimes give up. Indeed, when goals are unattainable, it can be very important to give them up (Miller & Worsch, 2007; Wrosch, Miller, Scheier, & Brun de Pontet, 2007). The process of disengaging from goals that are beyond reach, and the negative feelings that are part of that process—sadness, despair—are adaptive and functional in such circumstances (Klinger, 1975; Nesse, 2000).

When a valued goal is abandoned, however, it is important that the person eventually take up another. The absence of a goal yields a sense of emptiness. Disengagement appears to be a valuable and adaptive response when it leads to—or is directly tied to—moving on to other goals (Wrosch et al., 2007). By taking up an attainable alternative, the person remains engaged in activities that have meaning for the self, and life continues to have purpose.

An alternative to giving up altogether is to scale the goal back to something more restricted in the same general domain. This is a kind of limited disengagement, in the sense that the initial goal no longer remains in place. It avoids a complete disengagement from the domain of behavior, however, by substituting the more restricted goal. This shift thus keeps the person involved in that area of life, at a level that holds the potential for successful outcomes. It represents an accommodation rather than a complete relinquishing.

Dual-Process Models

The collection of theories I have referred to here as cognitive self-regulation models are perhaps more diverse than any other group of theories discussed in this chapter. In many ways, placing a particular theory into this group is somewhat arbitrary. Nonetheless, this may be the place to mention dual-process models in personality psychology. These models assume two ways of processing experiences: one more basic and automatic, the other more deliberative and reflective. There are many such models in social psychology (e.g., Chaiken & Trope, 1999; Lieberman, Gaunt, Gilbert, & Trope, 2002; Smith & DeCoster, 2000; Strack & Deutsch, 2004; Wilson, Lindsey, & Schooler, 2000), and there are also such models in personality psychology.

Epstein's (1973, 1985, 1990, 1994) cognitive-experiential self theory may have been the first explicitly dual-process model in contemporary psychology. Epstein started with the premise that humans experience reality via two systems. One is a symbolic processor—the rational mind. The other is associative and intuitive, and functions automatically and quickly. Epstein argued that both systems are always at work and that they jointly determine behavior.

Metcalf and Mischel (1999) proposed a similar model, drawing on several decades' work on delay of gratification. In delay of gratification research, a choice is posed between a smaller, less desired but immediate reward and a larger, more desired reward later on (Mischel, 1974). Metcalf and Mischel (1999) proposed that two systems influence the ability to restrain in this and many other contexts: a "hot" system (emotional, impulsive, reflexive, and connectionist) and a "cool" system (strategic, flexible, slower, and unemotional). How a person responds to a difficult situation depends on which system presently dominates.

One interesting thing about these models is that they share some common ground with the biological process models described earlier. In particular, the position that there is a reflective, "cool" system that processes experience symbolically and, according to logical principles, bears a good deal of resemblance to the concept of effortful control. As noted earlier, effortful control provides a way to optimize outcomes, both with respect to the longer periods of time and with respect to a broader social context. In the same way, the rational side of the mind prevents the desires of the moment from overwhelming the person's behavior.

Contextualization of Traits

Perhaps the best-known cognitive approach to personality is Mischel and Shoda's (1995) view of personality as a cognitive-affective processing system. This label reflects the recognition that emotion plays a key role in much of cognitive experience. Mischel and Shoda, building on decades of work on social cognition, said

that people develop organizations of information about the nature of situations, other people, and the self. These schemas have a conditional property, an *if/then* quality. Saying that someone is aggressive doesn't mean you think the person is always aggressive at every moment. It means you think he's more likely than most people to be aggressive in a certain class of situations.

Evidence from several sources supports this view. For example, in describing people we know, we often use hedges, descriptions of conditions under which we think those people act a particular way (Wright & Mischel, 1988). In fact, the better you know people, the more likely you are to think in conditional terms about them (Chen, 2003), probably because you've learned the circumstances that touch off various kinds of behavior in them. People think conditionally about themselves as well, understanding that their own behavior follows an *if/then* principle.

To predict consistency of action, then, you need to know two things. First, you need to know how the person construes the situation (which depends on the person's mental schemas and their accessibility). Second, you need to know the person's *if/then* profile. The unique profile of *if/then* relations is a *behavioral signature* for a person's personality (Shoda, Mischel, & Wright, 1994). Even if two people tend toward the same kind of behavior, the situations that elicit that behavior may differ from one person to the other. Indeed, these profiles of *if/then* relations may in some sense *define* personality (Mischel, Shoda & Mendoza-Denton, 2002).

This approach treats traits as being contextualized. The trait does not exist apart from the situations that elicit behaviors that fit the trait. This is a view of traits that is very different in some ways from the perspective with which this chapter began. Yet, in other ways, it is entirely compatible with that perspective. The same set of traits may be equally useful in this view, but they apply in a different way. It is entirely possible—and entirely reasonable—for a person who is generally an introvert to behave in a particularly extraverted way in some circumstances (Fleeson, 2001). A person's placement on a trait dimension is not really a single point, then, but a frequency distribution, with a mean (what one would have thought of previously as the "single point") and a degree of variability.

Psychoanalysis

Let's turn now to a very old conception of personality. To people who are unfamiliar with contemporary personality psychology, the term *personality* may evoke the view on personality that was proposed over a century ago by the Austrian physician Sigmund Freud. Freud developed his ideas from clinical cases, some his own and some described to him by other therapists. He developed his view during a time in which research on personality was essentially nonexistent. As a result, his theoretical position evolved without systematic research, but rather through his own observations and intuitions.

Freud proposed a view in which primitive animalistic forces are basic to personality. He argued that their influence was generally hidden both from the person in which they were at work and from outside observers. This view was abhorrent to the Victorian society to which he was writing. It was even more shocking that the primitive animalistic forces he emphasized were focused on issues of sex and death. Freud (1920/1955) wrote that the goal of life is death, and his theory was one in which humans are obsessed with sex from infancy throughout life. In this view, most of normal development is a process of disguising one's true primitive desires from oneself to allow one to function in society.

Psychoanalysis is among the oldest set of ideas in personality psychology. In fact, some dismiss it as little more than a historical curiosity. Although parts of Freud's view of personality do seem quaint in today's world, there are also broad themes in that viewpoint that continue to resonate today. For example, Freud was very much influenced by the writings of Darwin, who was arguing that humans are

inextricably connected to a broader spectrum of animals with many characteristics in common. Among those characteristics are the fact that complex animals all die eventually and the fact that a core motivation of all animal life is reproduction. Inasmuch as reproduction among humans entails sex, there appears to be a very sound evolutionary basis for arguing that sex is a rather important aspect of life. One might even argue that all of life before reproduction is a process of preparing the individual for reproduction.

Darwin's views were considered shocking by many people in the time he wrote (indeed, the principle of evolution and the interconnectedness of species remain controversial to some to this day). Today, however, the idea that various aspects of human behavior reflect adaptation to evolutionary pressures is widely represented throughout psychology, including personality (that broad theme is considered briefly later in the chapter). In some ways, then, Freud was ahead of his time. The sections that follow describe some of the other themes of Freud's writing that continue to resonate today.

Levels of Awareness

The part of psychoanalytic theory that is often termed the topographical model of the mind posits three levels of potential awareness of information. The conscious mind is present awareness; the preconscious is the part of the mind that contains information that is not now in consciousness but is directly accessible by voluntary search; and the unconscious is the part of the mind that is not directly accessible by voluntary search. It was the concept of the unconscious that Freud invoked in accounting for people's lack of awareness of their primitive motives and of the reasons for engaging in many of the behaviors they engage in. That is, the actions are being done for reasons that are specified only in the unconscious for one reason or another.

The notion of an unconscious region of the mind fell out of favor and remained so for quite some time. It has reemerged over the past two decades, however, in a form rather different from that portrayed in psychoanalysis. Today's version is often referred to as the "cognitive unconscious" (Hassin, Uleman, & Bargh, 2005; Kihlstrom, 1987). It acknowledges that there is in fact a good portion of the programming of the mind that is not easily accessible to awareness (and perhaps not directly accessible at all).

In part, this inaccessible portion of the mind includes what has been hard-wired into the organism, such as knowing how to breathe and digest and whatever other reflexive action patterns are built in at birth. In part, this inaccessible portion of the mind includes what is called procedural memory—information about how to engage in particular thought or action processes—which was acquired through practice and now is lost to awareness. The latter theme has been generalized to the view that information about even complex action or thought patterns that have become automatic through repetition is difficult to retrieve from memory voluntarily. Perhaps more interesting at present is the idea that those complex patterns can be triggered, and executed, automatically, without any awareness of their existence or their execution on the part of the person who is engaged in them (e.g., Bargh, Gollwitzer, Lee-Chai, Barndollar, & Trötschel, 2001).

In some ways, this is very similar to the unconscious postulated by Freud. In other ways, it is quite different. The unconscious Freud wrote about is filled with dark secrets and hidden desires. The cognitive unconscious is, for the most part, more pedestrian. On the other hand, the part of the cognitive unconscious that has been studied the most is the part that follows from automaticity rather than from biological programming. It may be that "instinctive" aspects of human behavior that are automatic by virtue of biological inheritance are more similar to what Freud wrote about than are aspects of behavior that follow from large numbers of repetition.

In any case, the idea that people do things for reasons they are not aware of now appears beyond question. This is certainly a core theme of psychoanalysis, even if the particulars of how it happens are not entirely the same today as they once were.

Layers of Personality

Another aspect of psychoanalytic theory, often termed the structural model of personality (Freud, 1923/1962), posits three modes of functioning. Freud saw personality as having three aspects, which interweave to create the complexity of human behavior. These are not physical entities but rather three aspects of functioning, termed *id*, *ego*, and *superego*.

The *id* is the part of personality that exists at birth. It consists of all the inherited, instinctive, primitive aspects of personality, and it functions entirely in the unconscious. It is closely tied to basic biological processes and is the source of all psychological energy. The *id* follows what's called the pleasure principle: that needs should be satisfied immediately (Freud, 1940/1949). Unsatisfied needs are aversive tension states, which should be gratified whenever they arise to release the tension. Under the pleasure principle, for example, any increase in hunger should cause an attempt to eat.

Because it is not possible to satisfy impulses immediately forever, a second set of functions emerges, called *ego*. *Ego* translates fairly closely to *self*. The *ego* evolves from the *id* and harnesses part of the *id*'s energy for its own use. *Ego* focuses on making sure *id* impulses are expressed effectively, by taking into account the constraints of the external world. Because of this concern with the outside world, a good deal of *ego* functioning takes place in the conscious and preconscious regions of the mind.

The *ego* is said to follow the reality principle: the taking into account of external reality along with internal needs and urges. The reality principle brings a sense of rationality to behavior. Because it orients people toward the world, it leads them to weigh the risks linked to an action before acting. If the risks seem too high, you'll think of another way to meet the need. If there's no safe way to do so immediately, you'll delay it to a later, safer, or more sensible time. Thus, an important goal of the *ego* is to delay the discharge of the *id*'s tension until an appropriate object or activity is found—not prevent it, but channel it appropriately.

In other words, the *ego* can delay gratification. The very alert reader will have noticed a similarity between this function of the *ego* and effects created by the temperament of effortful control and the function posited by cognitive models for the rational layer of the mind. This similarity is sufficiently striking (given that the observations were made by different people across many decades of time) to suggest the theorists may have been describing the same thing.

In the psychoanalytic view, as time goes on and other forces intrude on the developing child, a third mode of functioning emerges, called *superego*. The *superego* represents both an idealized way to be (*ego* ideal), and ways to not-be (conscience). *Superego* is the moral sense of personality, which tries to induce the person adhere to high principles. This moral sense can be striking enough that some connect the upper layer of the dual-process model to *superego* rather than *ego* (Kochanska & Knaack, 2003). In some respects, however, what makes the *superego*'s goals different is primarily that they are more abstract and more demanding.

Defenses

A third theme from psychoanalysis that has been maintained in mainstream psychology is the idea that people use defenses involuntarily, automatically, to protect themselves from ideas, knowledge, or desires that are threatening. In Freud's view, these defenses represent tools of the *ego* to permit it to do its main job

of satisfying the needs of the id while avoiding problems with respect to either the constraints of external reality or the demands of the superego.

As is true of contemporary views of the unconscious, theorists after Freud have accounted for such self-protective tendencies in various ways. Today discussions of defenses would be more likely to be framed in terms of self-esteem protection. However, the theme that people avoid confronting unpleasant truths remains very much alive in personality psychology.

Attachment Patterns

Another perspective that is very influential in today's personality psychology derives from a body of work in developmental psychology that had its origins in psychoanalysis, but which transformed psychoanalysis enormously. A number of post-Freudians known as object relations theorists argued that the fundamental issues in human development (and in human life more generally) do not concern sexuality (as Freud had said) but rather the relationships from one person (the infant) to others (at first, the mother or other primary caregiver).

Theories of this group share three further themes. First, a dialectic tension is assumed between processes of psychological fusion with the other versus processes of separation and individuation from the other (which are involved in forming a separate identity). Thus, the child (and the adult) not only wants to be immersed in safety and security but also wants to have a separate existence. Second, this approach emphasizes that a person's pattern of relating to others is laid down in early childhood. Third, the patterns formed early (which can vary greatly from person to person) are assumed to recur repeatedly throughout life.

The subset of this group of theories that has come to be most influential in today's personality psychology is called attachment theory. This term is identified with Bowlby (1969, 1988) and Ainsworth (e.g., Ainsworth, Blehar, Waters, & Wall, 1978), among others. The term *attachment* was used initially to refer to an infant's connection with its mother. In more recent years the ideas of attachment theory have been adapted to create a picture of the functioning of adult personality.

Bowlby (1969, 1988) believed that the clinging and following of the infant serve the important biological purpose of keeping the infant close to the mother, thus increasing the infant's chances of survival. A basic theme in attachment theory is that mothers (and others) who are responsive to the infant create a *secure base* for it. The infant needs to know that the major person in his or her life is dependable—is there when needed. This sense of security gives the child a base from which to explore the world. It also provides a place of comfort (a *safe haven*) when the child is threatened.

Attachment theorists also believe that the child builds implicit mental working models of the self, others, and the nature of relationships. The model of the self can be positive or negative (or in between) as can the model of other people. How you view yourself has implications for how you behave, so does how you view the world of people around you, and so does how you view the nature of relationships.

Research on attachment in infants led to the emergence of an analysis of individual differences in attachment pattern. Secure attachment is displayed by an appropriate distress response (not too much, but not absent either) when the mother leaves the infant, and a happy and engaged response when mother returns. Two kinds of insecure responses also exist. An ambivalent (or resistant) infant becomes very upset when mother leaves, and its response to mother's return mixes approach with anger. The infant seeks contact with the mother but then angrily resists efforts to be soothed. In the avoidant pattern, the infant does not show distress when the mother leaves and responds to her return by ignoring her. It is as though this infant expects to be abandoned and is responding by being remote.

There is at least some evidence that the patterns have a self-perpetuating quality. The clinginess mixed with rejection in the ambivalent pattern can be hard to deal with, as can the aloofness and distance of the avoidant pattern. Each of these patterns tends to cause others to react negatively. That, in turn, reconfirms the perceptions that led to the patterns in the first place. In fact, people with an insecure attachment pattern appear to distort their memory of interactions over time to make them more consistent with their working models (Feeney & Cassidy, 2003). Thus, there is a self-generated stability to the pattern over the course of time.

Hazan and Shaver (1987) took this description of infants and extrapolated it to adult social behavior, with a focus on close relationships. In this research, secure adults said that love is real and when it comes, it stays. Avoidants were less optimistic, saying that love doesn't last. Ambivalents said falling in love is easy and happens often to them, but they also agreed that love doesn't last. These responses look very much like grown-up versions of the patterns of infancy.

Other research has expanded on these findings in many directions. For example, consistent with the pattern of infancy, ambivalent undergrads are most likely to have obsessive and dependent love relationships (Collins & Read, 1990) and to be most obsessive about lost loves (Davis, Shaver, & Vernon, 2003). Avoidants are the least likely to report being in love either in the present or in the past (Feeney & Noller, 1990). Avoidants are also the most likely to cope in self-reliant ways after a breakup (Davis et al., 2003). Those who are securely attached show the most interdependence, commitment, and trust (Mikulincer, 1998; Simpson, 1990). If they experience a breakup, they turn to family and friends as safe havens (Davis et al., 2003).

There are many ways in which adult attachment can affect the course of romantic relationships, and such topics have become the focus of much research in the past few years (Mikulincer & Goodman, 2006). Indeed, the past two decades have seen an explosion of research on wide-ranging manifestations of adult attachment patterns (Cassidy & Shaver, 2008; Feeney, 2006; Mikulincer & Goodman, 2006; Mikulincer & Shaver, 2007; Rholes & Simpson, 2004).

Issues in Adult Attachment

The proliferation of work on adult attachment has raised many issues, including how best to measure it in adults. Early studies used the three main categories from the infancy work, but another approach has also emerged. Following Bartholomew and Horowitz (1991), who began with Bowlby's notion of working models of self and other, many researchers have shifted to the assessment of two dimensions. One is a positive-versus-negative model of self (the self is worthy or not), the other is a positive-versus-negative model of others (others are trustworthy or not). The dimensions are termed *attachment anxiety* and *attachment avoidance*, respectively (Brennan, Clark, & Shaver, 1998). Security is represented by the combination of being low on both dimensions.

It is of some interest that these dimensions have at least a little resemblance to the approach and avoidance temperaments of the biological process approach to personality (and thus to extraversion and neuroticism; Carver, 1997). One clear difference is that the attachment patterns are specific to close relationships, whereas the approach and avoidance temperaments are quite general. Perhaps as a result of this difference in breadth, Simpson et al. (2002) found that measures of extraversion and neuroticism did not duplicate the effects of attachment patterns. Nonetheless, the resemblance remains intriguing.

Another important issue is the question of whether each person has one pattern of relating to others or many patterns for different relationships. The answer seems to be many patterns (Baldwin, Keelan, Fehr, Enns, & Koh-Rangarajoo, 1996; Cook, 2000; La Guardia, Ryan, Couchman, & Deci, 2000; Overall, Fletcher, & Friesen, 2003; Pierce & Lydon, 2001). For example, one study had participants define each of their 10 closest relationships in terms of the three categories. Across the 10 descriptions, almost everyone used at

least two patterns and nearly half used all three (Baldwin et al., 1996). People also seem to have patterns of attachment to groups, distinct from their patterns for close relationships (Smith, Murphy, & Coats, 1999).

Today, the attachment model of adult relationships is being explored by researchers in many different contexts. Many people now believe that the fundamental issue underlying many kinds of social behavior is the nature and quality of the bond that a given person has to a significant other. This view depends on a particular implicit view of personality: that the core dynamic of personality involves a person's perceptions of his or her relations with others (see also Andersen & Chen, 2002).

Self-Actualization, Self-Determination

Another broad approach to personality is associated with terms such as *self-actualization* and *self-determination*. One core idea in this viewpoint is that people have a natural tendency to grow and develop their capabilities in ways that maintain or enhance the true self, an idea called self-actualization (Rogers, 1959). If this tendency is allowed to express itself, the person develops in positive ways. One impediment to this is the need for acceptance by other people. Acting in ways that foster acceptance from others sometimes means acting in ways that prevent growth.

Another core idea is that people must choose for themselves how to act in the world. It is the person's task to sort out the pressures and focus on growth and development. This way of thinking is echoed in a contemporary view of personality called self-determination theory (Deci & Ryan, 1980, 1985, 1991, 2000; Ryan, 1993; Ryan & Deci, 2001, 2017). This theory begins with the idea that behavior can reflect two underlying dynamics. Some actions are *self-determined*, done because the actions have intrinsic value to the actor. Other actions are *controlled*, done to gain payments or to satisfy some sort of pressure. An action can be controlled even if the control is entirely in your own mind. If you do something because you'd feel guilty if you didn't do it, you are engaging in controlled behavior.

Self-determination theory holds that people want to feel a sense of autonomy in what they do. In this view, accomplishments are satisfying only if you feel a sense of self-determination in them. If you feel forced or pressured, you'll be less satisfied (Grolnick & Ryan, 1989). Indeed, pressuring *yourself* to do well can also reduce motivation (Ryan, 1982). People who impose conditions of worth on themselves suffer adverse consequences (see also Crocker & Knight, 2005; Crocker & Park, 2004).

In self-determination theory, people also naturally strive for greater competence and greater relatedness to others (themes that I have not gone into here), and they seek to experience their behavior as autonomous. Autonomy means "owning" whatever behavior you choose to engage in as being yours. People feel authentic when they act with a sense of choice and self-expression (Safran, 2017). To feel comfortable choosing a behavior as belonging to you, it must fit with your sense of what is your true self. It takes a good deal of trial and error to learn to sense when you are behaving according to your true self. Until you have a strong sense of that, it can be hard to know whether you are forcing yourself to believe that something fits your true self when it does not. Yet that is the goal of a meaningful life.

Evolution

As noted earlier, the idea that evolutionary processes have a major influence on present-day human behavior has come to occupy an important place in psychology (see also Chapter 16) including personality

psychology. The underlying idea is that behavioral tendencies can become widely represented in a population (and thus part of human nature) if those tendencies increase the rate of survival and reproduction over many generations (Barkow, Cosmides, & Tooby, 1992; Bjorklund & Pellegrini, 2002; Buss, 1995, 2005; Caporael, 2001; Heschl, 2002; Segal, 1993; Tooby & Cosmides, 1989, 1990).

This is more complicated than it sounds. Your genes are helped into the next generation by anything that helps people with genetic make-up similar to yours (your subgroup) reproduce. Thus, if you act altruistically for a relative, it helps the relative survive and thereby helps genes that resemble your genes survive. This kind of reasoning suggests the possibility that a tendency toward altruism is part of human nature. This idea has also been extended to suggest more broadly that our ancestors survived better by cooperating (Axelrod & Hamilton, 1981), leading some to conclude that a tendency to cooperate is part of human nature (Guisinger & Blatt, 1994; Kriegman & Knight, 1988; McCullough, Kimeldorf, & Cohen, 2008).

The evolutionary view on personality focuses closely on mating (Buss, 1991, 1994; Buss, & Schmitt, 1993; Gangestad & Simpson, 2000). Indeed, from an evolutionary view, mating is what life is all about. Mating involves competition: males competing with one another and females with one another. But the two competitions are believed to differ a little in their goals. Males are driven to mate widely, females to choose a mate who can provide resources (see Chapter 16).

Most psychologists believe there is little question that what we think of as personality reflects the processes of millennia of evolution. It is harder, however, to specify clearly just what properties have been selected and why. Nonetheless, many personality psychologists do continue to work at that puzzle. There could hardly be an approach to understanding the fundamentals of humanity that holds a greater claim to trying to identify human nature.

Individual Differences Revisited: Measurement

Before closing, I want to briefly mention one more issue. This is a methodological issue that is especially salient in personality psychology but also applies to work in social psychology. As noted earlier, all viewpoints on personality point partly to differences among people. To study these differences, personality psychologists had to develop ways to measure them.

This is not as simple as it might seem. In describing the trait viewpoint, I noted a philosophical disagreement about whether to start with a theoretical reason to measure something or whether to let reality tell you what's important to measure. As a practical matter, that issue has actually affected only the trait approach to personality, which has adopted the goal of capturing all of personality. Other approaches, being more closely focused on one theme or another, have uniformly taken the theoretical path to measure development. Let's consider the process of creating a measure a little more closely.

Suppose you had a theoretical notion about some aspect (or aspects) of personality variation and you wanted to develop a way to assess it (or them). What would you do? First, you need to identify a source of relevant information. That might be self-ratings, reports of observers (people rating a person they know), or even actual behaviors that pertain to the quality of your interest. In part because self-ratings are so easy to collect, that's the most popular source. It is common to write a set of items that pertain to the trait of interest and to collect responses on a multipoint scale indicating the extent of endorsement of what the item says (typically ranging from strong agreement to strong disagreement). If you do this, be careful that the items you write are clear and simple, that they don't combine more than one issue in any one item, and that they don't use words or phrases that people won't understand.

Easy enough so far. But that's just the start. There are many things you need to check on. If you intend to be measuring one and only one thing, you need to be sure that's what you're actually doing. If you

intend to be measuring two separate things, you need to be sure that's what you're actually doing. In both cases, that means you need a factor analysis on a set of responses to your items to see what factor structure emerges from them. If you have two separate factors, it's no good to try to treat the items as though they represent one thing, because they don't. If you have one factor, it's no good to try to pretend you are measuring two separate properties of personality, because you aren't.

Factor analysis can show you other things as well. Sometimes in developing a set of items, you find out that some of the items aren't much good: They don't correlate with the other items, or maybe everyone totally agrees (or disagrees) with them so that they give no information about differences among people. In such cases, you need to throw out or revise the items and try again. Most measures go through multiple rounds of item construction and testing before they go to the next step.

There are in fact several next steps. Although the factor structure tells you something about what items go together, you also need a measure of internal reliability for each scale (which does not, by the way, substitute for the factor analysis). If you intend to measure an individual difference that is fairly stable, you need to show that it is fairly stable—over an interval of at least several weeks in a moderately large sample.

The hardest step is called validation. That means showing that the measure is measuring what you think it is measuring. Done properly, it means (a) correlating your measure with other measures it should relate to (moderately strong correlations establish what's called convergent validity), (b) correlating it with measures it should not relate to (low correlations establish what's called discriminant validity), and (c) relating scores on your measure to some behavioral index of the property you think you are measuring (that being the hardest but most important part).

After all that, you can actually use your measure. If it has only one factor, you are good to go. If it has multiple factors, be careful. Try very hard to resist the impulse to make an index out of them (adding them up or averaging them), unless they are pretty strongly correlated with each other. Doing that can create great confusion about exactly what the index means (Carver, 1989). Under no circumstance should you treat scales as opposites unless they are fairly strongly inversely related. Once again, the resulting index is misleading rather than helpful.

Ultimately, what we find out from studies of people's behavior is only as good as our measures are. Whether the measure concerns individual differences in personality or differences of some other type, the same issues apply. It is important to attend carefully to these issues as you proceed.

Conceptions of Personality In Social Behavior

As indicated at the outset, personality psychologists are interested in how best to construe human nature. Different theorists take different views of human nature as their starting points. Thus, there exist several different conceptions of what processes are fundamental to personality. The review offered in this chapter surveyed several perspectives that currently are influential in personality psychology. These perspectives are not the only possibilities (cf. Carver, 2006) but rather one person's reading of what ideas currently have the greatest influence.

When social psychologists examine a phenomenon, they do so through the lens of one or another set of assumptions, which address (in part) the core concerns underlying human action. Social psychologists in different contexts over the years have assumed widely varying dynamics as underlying the kinds of behavior on which they focused. I think it is fair to say that each of those views has also been held by some group of personality psychologists as a good way to conceptualize the central concerns of the person. In this way, ideas that are fundamental to personality psychology serve as implicit frameworks for theories of social psychology.

References

- Ahadi, S. A., & Rothbart, M. K. (1994). Temperament, development and the big five. In C. F. Halverson Jr., G. A. Kohnstamm, & R. P. Martin (Eds.), *The developing structure of temperament and personality from infancy to adulthood* (pp. 189–207). Hillsdale, NJ: Erlbaum.
- Ainsworth, M. D. S., Blehar, M. C., Waters, E., & Wall, S. (1978). *Patterns of attachment: A psychological study of the strange situation*. Hillsdale, NJ: Erlbaum.
- Allport, G. W. (1961). *Pattern and growth in personality*. New York, NY: Holt, Rinehart, & Winston, Inc.
- Andersen, S. M., & Chen, S. (2002). The relational self: An interpersonal social-cognitive theory. *Psychological Review*, 109, 619–645.
- Ashton, M. C., Lee, K., Perugini, M., Szarota, P., de Vries, R. E., Di Blas, L., . . . De Raad, B. (2004). A six-factor structure of personality-descriptive adjectives: Solutions from psycholexical studies in seven languages. *Journal of Personality and Social Psychology*, 86, 356–366.
- Austin, J. T., & Vancouver, J. B. (1996). Goal constructs in psychology: Structure, process, and content. *Psychological Bulletin*, 120, 338–375.
- Axelrod, R., & Hamilton, W. D. (1981). The evolution of cooperation. *Science*, 211, 1390–1396.
- Baldwin, M. W., Keelan, J. P. R., Fehr, B., Enns, V., & Koh-Rangarajoo, E. (1996). Social-cognitive conceptualization of attachment working models: Availability and accessibility effects. *Journal of Personality and Social Psychology*, 71, 94–109.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Bargh, J. A., Gollwitzer, P. M., Lee-Chai, A., Barndollar, K., & Trötschel, R. (2001). The automated will: Nonconscious activation and pursuit of behavioral goals. *Journal of Personality and Social Psychology*, 81, 1014–1027.
- Barkow, J. H., Cosmides, L., & Tooby, J. (1992). *The adapted mind: Evolutionary psychology and the generation of culture*. New York, NY: Oxford University Press.
- Bartholomew, K., & Horowitz, L. M. (1991). Attachment styles among young adults: A test of a four-category model. *Journal of Personality and Social Psychology*, 61, 226–244.
- Berry, D. S., & Miller, K. M. (2001). When boy meets girl: Attractiveness and the five-factor model in opposite-sex interactions. *Journal of Research in Personality*, 35, 62–77.
- Bjorklund, D. F., & Pellegrini, A. D. (2002). *Origins of human nature: Evolutionary developmental psychology*. Washington, DC: American Psychological Association.
- Block, J. (1995). A contrarian view of the five-factor approach to personality assessment. *Psychological Bulletin*, 117, 187–215.
- Bogg, T., & Roberts, B. W. (2004). Conscientiousness and health-related behaviors: A meta-analysis of the leading behavioral contributors to mortality. *Psychological Bulletin*, 130, 887–919.
- Bolger, N., & Zuckerman, A. (1995). A framework for studying personality in the stress process. *Journal of Personality and Social Psychology*, 69, 890–902.
- Bowlby, J. (1969). *Attachment and loss: Vol. 1, Attachment*. New York, NY: Basic Books.
- Bowlby, J. (1988). *A secure base: Parent-child attachment and healthy human development*. New York, NY: Basic Books.
- Brehm, J. W., & Self, E. A. (1989). The intensity of motivation. *Annual Review of Psychology*, 40, 109–131.
- Brennan, K. A., Clark, C. L., & Shaver, P. R. (1998). Self-report measurement of adult attachment: An integrative overview. In J. A. Simpson & W. S. Rholes (Eds.), *Attachment theory and close relationships* (pp. 46–76). New York, NY: Guilford.
- Buss, A. H., & Plomin, R. (1975). *A temperament theory of personality development*. New York, NY: Wiley-Interscience.
- Buss, D. M. (1991). Evolutionary personality psychology. *Annual Review of Psychology*, 42, 459–491.
- Buss, D. M. (1994). *The evolution of desire: Strategies of human mating*. New York, NY: Basic Books.

- Buss, D. M. (1995). Evolutionary psychology: A new paradigm for psychological science. *Psychological Inquiry*, 6, 1–30.
- Buss, D. M. (Ed.). (2005). *The handbook of evolutionary psychology*. New York, NY: Wiley.
- Buss, D. M., & Schmitt, D. P. (1993). Sexual strategies theory: An evolutionary perspective on human mating. *Psychological Review*, 100, 204–232.
- Caporael, L. R. (2001). Evolutionary psychology: Toward a unifying theory and a hybrid science. *Annual Review of Psychology*, 52, 607–628.
- Carver, C. S. (1989). How should multifaceted personality constructs be tested? Issues illustrated by self-monitoring, attributional style, and hardiness. *Journal of Personality and Social Psychology*, 56, 577–585.
- Carver, C. S. (1997). Adult attachment and personality: Converging evidence and a new measure. *Personality and Social Psychology Bulletin*, 23, 865–883.
- Carver, C. S. (2004). Negative affects deriving from the behavioral approach system. *Emotion*, 4, 3–22.
- Carver, C. S. (2006). Assumptions about personality and core motivations as hidden partners in social psychology. In P. A. M. Van Lange (Ed.), *Bridging social psychology: Benefits of transdisciplinary approaches* (pp. 181–186). Mahwah, NJ: Erlbaum.
- Carver, C. S., Johnson, S. L., & Joormann, J. (2009). Two-mode models of self-regulation as a tool for conceptualizing effects of the serotonergic system in normal behavior and diverse disorders. *Current Directions in Psychological Science*, 18, 195–199.
- Carver, C. S., & Scheier, M. F. (1998). *On the self-regulation of behavior*. New York, NY: Cambridge University Press.
- Carver, C. S., & Scheier, M. F. (2008). *Perspectives on personality* (6th ed.). Boston, MA: Allyn & Bacon.
- Carver, C. S., & Scheier, M. F. (2018). Generalized optimism. In G. Oettingen, A. T. Sevincer, & P. M. Gollwitzer (Eds.), *The psychology of thinking about the future* (pp. 214–230). New York, NY: Guilford.
- Carver, C. S., Scheier, M. F., Miller, C. J., & Fulford, D. (2009). Optimism. In C. R. Snyder & S. J. Lopez (Eds.), *Oxford handbook of positive psychology* (2nd ed., pp. 303–311). New York, NY: Oxford University Press.
- Carver, C. S., Sutton, S. K., & Scheier, M. F. (2000). Action, emotion, and personality: Emerging conceptual integration. *Personality and Social Psychology Bulletin*, 26, 741–751.
- Casey, B. J., Getz, S., & Galvan, A. (2008). The adolescent brain. *Developmental Review*, 28, 62–77.
- Caspi, A., Roberts, B. W., & Shiner, R. L. (2005). Personality development: Stability and change. *Annual Review of Psychology*, 56, 453–484.
- Caspi, A., & Shiner, R. L. (2006). Personality development. In N. Eisenberg (Ed.), *Handbook of child psychology*, Vol. 3. *Social, emotional, and personality development* (6th ed., pp. 300–365). New York, NY: Wiley.
- Cassidy, J., & Shaver, P. R. (Eds.). (2008). *Handbook of attachment* (2nd ed.). New York, NY: Guilford.
- Cattell, R. B. (1965). *The scientific analysis of personality*. Baltimore, MD: Penguin.
- Cattell, R. B. (1978). *The scientific use of factor analysis*. New York, NY: Plenum.
- Chaiken, S. L., & Trope, Y. (Eds.). (1999). *Dual-process theories in social psychology*. New York, NY: Guilford.
- Chamorro-Premuzic, T., & Furnham, A. (2003). Personality predicts academic performance: Evidence from two longitudinal university samples. *Journal of Research in Personality*, 37, 319–338.
- Chaplin, W. F., Phillips, J. B., Brown, J. D., Clanton, N. R., & Stein, J. L. (2000). Handshaking, gender, personality, and first impressions. *Journal of Personality and Social Psychology*, 79, 110–117.
- Chassin, L., Flora, D. B., & King, K. M. (2004). Trajectories of alcohol and drug use and dependence from adolescence to adulthood: The effects of familial alcoholism and personality. *Journal of Abnormal Psychology*, 113, 483–498.
- Chen, S. (2003). Psychological-state theories about significant others: Implications for the content and structure of significant-other representations. *Personality and Social Psychology Bulletin*, 29, 1285–1302.
- Clark, L. A., Kochanska, G., & Ready, R. (2000). Mothers' personality and its interaction with child temperament as predictors of parenting behavior. *Journal of Personality and Social Psychology*, 79, 274–285.
- Cloninger, C. R. (1987). A systematic method of clinical description and classification of personality variants: A proposal. *Archives of General Psychiatry*, 44, 573–588.
- Collins, N. L., & Read, S. J. (1990). Adult attachment, working models, and relationship quality in dating couples. *Journal of Personality and Social Psychology*, 58, 644–663.
- Cook, W. L. (2000). Understanding attachment security in a family context. *Journal of Personality and Social Psychology*, 78, 285–294.
- Costa, P. T., Jr., & McCrae, R. R. (1985). *The NEO Personality Inventory manual*. Odessa, FL: Psychological Assessment Resources.
- Crocker, J., & Knight, K. M. (2005). Contingencies of self-worth. *Current Directions in Psychological Science*, 14, 200–203.
- Crocker, J., & Park, L. E. (2004). The costly pursuit of self-esteem. *Psychological Bulletin*, 130, 392–414.
- Davidson, R. J. (1988). EEG measures of cerebral asymmetry: Conceptual and methodological issues. *International Journal of Neuroscience*, 39, 71–89.
- Davidson, R. J. (1992). Prolegomenon to the structure of emotion: Gleanings from neuropsychology. *Cognition and Emotion*, 6, 245–268.
- Davidson, R. J. (1995). Cerebral asymmetry, emotion, and affective style. In R. J. Davidson, & K. Hugdahl (Eds.), *Brain asymmetry* (pp. 361–387). Cambridge, MA: MIT Press.
- Davidson, R. J. (1998). Affective style and affective disorders: Perspectives from affective neuroscience. *Cognition and Emotion*, 12, 307–330.
- Davis, D., Shaver, P. R., & Vernon, M. L. (2003). Physical, emotional, and behavioral reactions to breaking up: The roles of gender, age, emotional involvement, and attachment style. *Personality and Social Psychology Bulletin*, 29, 871–884.
- Deci, E. L., & Ryan, R. M. (1980). The empirical exploration of intrinsic motivational processes. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 13). New York, NY: Academic Press.
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York, NY: Plenum.
- Deci, E. L., & Ryan, R. M. (1991). A motivational approach to self: Integration in personality. In R. Dienstbier (Ed.), *Nebraska symposium on motivation: Perspectives on motivation* (Vol. 38, pp. 237–288). Lincoln, NE: University of Nebraska Press.
- Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11, 227–268.
- Depue, R. A., & Collins, P. F. (1999). Neurobiology of the structure of personality: Dopamine, facilitation of incentive motivation, and extraversion. *Behavioral and Brain Sciences*, 22, 491–517.
- Depue, R. A., & Iacono, W. G. (1989). Neurobehavioral aspects of affective disorders. *Annual Review of Psychology*, 40, 457–492.
- Depue, R. A., Krauss, S. P., & Spont, M. R. (1987). A two-dimensional threshold model of seasonal bipolar affective disorder. In D. Magnusson & A. Öhman (Eds.), *Psychopathology: An interactional perspective* (pp. 95–123). Orlando, FL: Academic Press.
- Depue, R. A., & Morrone-Strupinsky, J. V. (2005). A neurobehavioral model of affiliative bonding: Implications for conceptualizing a human trait of affiliation. *Behavioral and Brain Sciences*, 28, 313–395.
- Derryberry, D., & Rothbart, M. K. (1997). Reactive and effortful processes in the organization of temperament. *Development and Psychopathology*, 9, 633–652.
- DeYoung, C. G. (2006). Higher-order factors of the Big Five in a multi-informant sample. *Journal of Personality and Social Psychology*, 91, 1138–1151.
- DeYoung, C. G., Peterson, J. B., & Higgins, D. M. (2001). Higher-order factors of the big five predict conformity: Are there neuroses of health? *Personality and Individual Differences*, 33, 533–552.
- Digman, J. M. (1997). Higher-order factors of the Big Five. *Journal of Personality and Social Psychology*, 73, 1246–1256.
- Digman, J. M., & Inouye, J. (1986). Further specification of the five robust factors of personality. *Journal of Personality and Social Psychology*, 50, 116–123.

- Donnellan, M. B., Conger, R. D., & Bryant, C. M. (2004). The big five and enduring marriages. *Journal of Research in Personality*, 38, 481–504.
- Eccles, J. S., & Wigfield, A. (2002). Motivational beliefs, values and goals. *Annual Review of Psychology*, 53, 109–132.
- Elliot, A. J. (Ed.). (2008). *Handbook of approach and avoidance motivation*. New York, NY: Psychology Press.
- Elliot, A. J., & Sheldon, K. M. (1998). Avoidance personal goals and the personality–illness relationship. *Journal of Personality and Social Psychology*, 75, 1282–1299.
- Elliot, A. J., & Thrash, T. M. (2002). Approach–avoidance motivation in personality: Approach and avoidance temperaments and goals. *Journal of Personality and Social Psychology*, 82, 804–818.
- Epstein, S. (1973). The self-concept revisited: Or a theory of a theory. *American Psychologist*, 28, 404–416.
- Epstein, S. (1985). The implications of cognitive–experiential self theory for research in social psychology and personality. *Journal for the Theory of Social Behavior*, 15, 283–310.
- Epstein, S. (1990). Cognitive–experiential self-theory. In L. Pervin (Ed.), *Handbook of personality: Theory and research* (pp. 165–192). New York, NY: Guilford.
- Epstein, S. (1994). Integration of the cognitive and the psychodynamic unconscious. *American Psychologist*, 49, 709–724.
- Eysenck, H. J. (1967). *The biological basis of personality*. Springfield, IL: Charles C Thomas.
- Eysenck, H. J. (1975). *The inequality of man*. San Diego, CA: Edits.
- Eysenck, H. J. (1986). Models and paradigms in personality research. In A. Angleitner, A. Furnham, & G. Van Heck (Eds.), *Personality psychology in Europe, Vol. 2: Current trends and controversies* (pp. 213–223). Lisse, Holland: Swets & Zeitlinger.
- Feeney, B. C. (2006). An attachment theory perspective on the interplay between intrapersonal and interpersonal processes. In K. D. Vohs & E. J. Finkel (Eds.), *Self and relationships* (pp. 133–159). New York, NY: Guilford.
- Feeney, B. C., & Cassidy, J. A. (2003). Reconstructive memory related to adolescent-parent conflict interactions: The influence of attachment-related representations on immediate perceptions and changes in perceptions over time. *Journal of Personality and Social Psychology*, 85, 945–955.
- Feeney, J. A., & Noller, P. (1990). Attachment style as a predictor of adult romantic relationships. *Journal of Personality and Social Psychology*, 58, 281–291.
- Fleeson, W. (2001). Toward a structure- and process-integrated view of personality: Traits as density distributions of states. *Journal of Personality and Social Psychology*, 80, 1011–1027.
- Flynn, F. J. (2005). Having an open mind: The impact of openness to experience on interracial attitudes and impression formation. *Journal of Personality and Social Psychology*, 88, 816–826.
- Fowles, D. C. (1980). The three arousal model: Implications of Gray's two-factor learning theory for heart rate, electrodermal activity, and psychopathy. *Psychophysiology*, 17, 87–104.
- Fowles, D. C. (1993). Biological variables in psychopathology: A psychobiological perspective. In P. B. Sutker & H. E. Adams (Eds.), *Comprehensive handbook of psychopathology* (2nd ed., pp. 57–82). New York, NY: Plenum.
- Freud, S. (1949). *An outline of psychoanalysis* (J. Strachey, Trans.). New York, NY: Norton. (Original work published 1940)
- Freud, S. (1955). Beyond the pleasure principle. In J. Strachey (Ed.), *The standard edition of the complete psychological works of Sigmund Freud* (Vol. 18). London, England: Hogarth. (Original work published 1920)
- Freud, S. (1962). *The ego and the id*. New York, NY: Norton. (Originally published 1923)
- Gable, S. L. (2006). Approach and avoidance social motives and goals. *Journal of Personality*, 74, 175–222.
- Gable, S. L., & Berkman, E. T. (2008). Social motives and goals. In A. J. Elliot (Ed.), *Handbook of approach and avoidance motivation* (pp. 203–216). New York, NY: Psychology Press.
- Gangestad, S. W., & Simpson, J. A. (2000). The evolution of human mating: Trade-offs and strategic pluralism. *Behavioral and Brain Sciences*, 23, 573–587.
- Goldberg, L. R. (1981). Language and individual differences: The search for universals in personality lexicons. In L. Wheeler (Ed.), *Review of personality and social psychology* (Vol. 2, pp. 141–165). Beverly Hills, CA: SAGE.
- Goldberg, L. R. (1993). The structure of phenotypic personality traits. *American Psychologist*, 48, 26–34.
- Gray, J. A. (1982). *The neuropsychology of anxiety: An enquiry into the functions of the septo-hippocampal system*. New York, NY: Oxford University Press.
- Gray, J. A. (1987). Perspectives on anxiety and impulsivity: A commentary. *Journal of Research in Personality*, 21, 493–509.
- Gray, J. A. (1990). Brain systems that mediate both emotion and cognition. *Cognition and Emotion*, 4, 269–288.
- Gray, J. A. (1994a). Personality dimensions and emotion systems. In P. Ekman & R. J. Davidson (Eds.), *The nature of emotion: Fundamental questions* (pp. 329–331). New York, NY: Oxford University Press.
- Gray, J. A. (1994b). Three fundamental emotion systems. In P. Ekman & R. J. Davidson (Eds.), *The nature of emotion: Fundamental questions* (pp. 243–247). New York, NY: Oxford University Press.
- Graziano, W. G., & Eisenberg, N. H. (1999). Agreeableness as a dimension of personality. In R. Hogan, J. Johnson, & S. Briggs (Eds.), *Handbook of personality* (pp. 795–825). San Diego, CA: Academic Press.
- Graziano, W. G., Habashi, M. M., Sheese, B. E., Tobin, R. M. (2007). Agreeableness, empathy, and helping: A person X situation perspective. *Journal of Personality and Social Psychology*, 93, 583–599.
- Graziano, W. G., Jensen-Campbell, L. A., & Hair, E. C. (1996). Perceiving interpersonal conflict and reacting to it: The case for agreeableness. *Journal of Personality and Social Psychology*, 70, 820–835.
- Grolnick, W. S., & Ryan, R. M. (1989). Parent styles associated with children's self-regulation and competence in school. *Journal of Educational Psychology*, 81, 143–154.
- Guisinger, S., & Blatt, S. J. (1994). Individuality and relatedness: Evolution of a fundamental dialectic. *American Psychologist*, 49, 104–111.
- Hampson, S. E., Goldberg, L. R., Vogt, T. M., & Dubanoski, J. P. (2006). Forty years on: Teachers' assessments of children's personality traits predict self-reported health behaviors and outcomes at midlife. *Health Psychology*, 25, 57–64.
- Hassin, R. R., Uleman, J. S., & Bargh, J. A. (Eds.). (2005). *The new unconscious*. New York, NY: Oxford University Press.
- Hazan, C., & Shaver, P. R. (1987). Romantic love conceptualized as an attachment process. *Journal of Personality and Social Psychology*, 52, 511–524.
- Heschl, A. (2002). *The intelligent genome: On the origin of the human mind by mutation and selection*. New York, NY: Springer.
- Higgins, E. T., & Tykocinski, O. (1992). Self-discrepancies and biographical memory: Personality and cognition at the level of psychological situation. *Personality and Social Psychology Bulletin*, 18, 527–535.
- Higgins, E. T. (1996). Ideals, oughts, and regulatory focus: Affect and motivation from distinct pains and pleasures. In P. M. Gollwitzer & J. A. Bargh (Eds.), *The psychology of action: Linking cognition and motivation to behavior* (pp. 91–114). New York, NY: Guilford.
- Jang, K. L., Livesley, W. J., Angleitner, A., Riemann, R., & Vernon, P. A. (2002). Genetic and environmental influences on the covariance of facets defining the domains of the five-factor model of personality. *Personality and Individual Differences*, 33, 83–101.
- Jensen-Campbell, L. A., Adams, R., Perry, D. G., Workman, K. A., Furdella, J. Q., & Egan, S. K. (2002). Agreeableness, extraversion, and peer relations in early adolescence: Winning friends and deflecting aggression. *Journal of Research in Personality*, 36, 224–251.
- Jensen-Campbell, L. A., & Graziano, W. G. (2001). Agreeableness as a moderator of interpersonal conflict. *Journal of Personality*, 69, 323–362.
- John, O. P., & Srivastava, S. (1999). The Big Five trait taxonomy: History, measurement, and theoretical perspectives. In L. A. Pervin & O. P. John (Eds.), *Handbook of personality: Theory and research* (2nd ed., pp. 102–138). New York, NY: Guilford.
- Kern, M. L., & Friedman, H. S. (2008). Do conscientious individuals live longer? A quantitative review. *Health Psychology*, 27, 505–512.
- Keyes, C. L. M., Shmotkin, D., & Ryff, C. D. (2002). Optimizing well-being: The empirical encounter of two traditions. *Journal of Personality and Social Psychology*, 82, 1007–1022.

- Kihlstrom, J. F. (1987). The cognitive unconscious. *Science*, 237, 1445-1452.
- Klinger, E. (1975). Consequences of commitment to and disengagement from incentives. *Psychological Review*, 82, 1-25.
- Kochanska, G., & Knaack, A. (2003). Effortful control as a personality characteristic of young children: Antecedents, correlates, and consequences. *Journal of Personality*, 71, 1087-1112.
- Koole, S. L., Jager, W., van den Berg, A. E., Vlek, C. A. J., & Hofstee, W. K. B. (2001). On the social nature of personality: Effects of extraversion, agreeableness, and feedback about collective resource use on cooperation in a resource dilemma. *Personality and Social Psychology Bulletin*, 27, 289-301.
- Kriegman, D., & Knight, C. (1988). Social evolution, psychoanalysis, and human nature. *Social Policy*, 19, 49-55.
- La Guardia, J. G., Ryan, R. M., Couchman, C. E., & Deci, E. L. (2000). Within-person variation in security of attachment: A self-determination theory perspective on attachment, need fulfillment, and well-being. *Journal of Personality and Social Psychology*, 79, 367-384.
- Leary, M. R., & Hoyle, R. H. (Eds.). (2009). *Handbook of individual differences in social behavior*. New York, NY: Guilford.
- Lieberman, N., & Trope, Y. (2008). The psychology of transcending the here and now. *Science*, 322, 1201-1205.
- Lieberman, M. D., Gaunt, R., Gilbert, D. T., & Trope, Y. (2002). Reflection and reflexion: A social cognitive neuroscience approach to attributional inference. In M. Zanna (Ed.), *Advances in Experimental Social Psychology* (pp. 199-249). San Diego, CA: Academic Press.
- Lucas, R. E., Diener, E., Grob, A., Suh, E. M., & Shao, L. (2000). Cross-cultural evidence for the fundamental features of extraversion. *Journal of Personality and Social Psychology*, 79, 452-468.
- Lynam, D. R., Leukefeld, C., & Clayton, R. R. (2003). The contribution of personality to the overlap between antisocial behavior and substance use/misuse. *Aggressive Behavior*, 29, 316-331.
- Markey, C. N., Markey, P. M., & Tinsley, B. J. (2003). Personality, puberty, and preadolescent girls' risky behaviors: Examining the predictive value of the five-factor model of personality. *Journal of Research in Personality*, 37, 405-419.
- Markus, H., & Nurius, P. (1986). Possible selves. *American Psychologist*, 41, 954-969.
- McAdams, D. P. (1992). The five-factor model in personality: A critical appraisal. *Journal of Personality*, 60, 329-361.
- McAdams, D. P., Anyidoho, N. A., Brown, C., Huang, Y. T., Kaplan, B., & Machado, M. A. (2004). Traits and stories: Links between dispositional and narrative features of personality. *Journal of Personality*, 72, 761-784.
- McCrae, R. R. (1996). Social consequences of experiential openness. *Psychological Bulletin*, 120, 323-337.
- McCrae, R. R., & Costa, P. T., Jr. (2003). *Personality in adulthood: A five-factor theory perspective* (2nd ed.). New York, NY: Guilford.
- McCullough, M. E., & Hoyt, W. T. (2002). Transgression-related motivational dispositions: Personality substrates of forgiveness and their links to the big five. *Personality and Social Psychology Bulletin*, 28, 1556-1573.
- McCullough, M. E., Kimeldorf, M. B., & Cohen, A. D. (2008). An adaptation for altruism? The social causes, social effects, and social evolution of gratitude. *Current Directions in Psychological Science*, 17, 281-285.
- Meier, B. P., & Robinson, M. D. (2004). Does quick to blame mean quick to anger? The role of agreeableness in dissociating blame and anger. *Personality and Social Psychology Bulletin*, 30, 856-867.
- Meier, B. P., Robinson, M. D., & Wilkowski, B. M. (2006). Turning the other cheek: Agreeableness and the regulation of aggression-related primes. *Psychological Science*, 17, 136-142.
- Metcalfe, J., & Mischel, W. (1999). A hot/cool-system analysis of delay of gratification: Dynamics of willpower. *Psychological Review*, 106, 3-19.
- Mikulincer, M. (1998). Adult attachment style and individual differences in functional versus dysfunctional experiences of anger. *Journal of Personality and Social Psychology*, 74, 513-524.
- Mikulincer, M., & Goodman, G. S. (2006). *Dynamics of romantic love: Attachment, caregiving, and sex*. New York, NY: Guilford.
- Mikulincer, M., & Shaver, P. R. (2007). *Attachment in adulthood: Structure, dynamics, and change*. New York, NY: Guilford.
- Miller, J. D., Lynam, D., & Leukefeld, C. (2003). Examining antisocial behavior through the lens of the five factor model of personality. *Aggressive Behavior*, 29, 497-514.
- Miller, G. E., & Wrosch, C. (2007). You've gotta know when to fold 'em: Goal disengagement and systemic inflammation in adolescence. *Psychological Science*, 18, 773-777.
- Mischel, W. (1974). Processes in delay of gratification. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 7). New York, NY: Academic Press.
- Mischel, W., & Shoda, Y. (1995). A cognitive-affective system theory of personality: Reconceptualizing situations, dispositions, and invariance in personality structure. *Psychological Review*, 102, 246-268.
- Mischel, W., Shoda, Y., & Mendoza-Denton, R. (2002). Situation-behavior profiles as a locus of consistency in personality. *Current Directions in Psychological Science*, 11, 50-54.
- Moskowitz, G. B., & Grant, H. (Eds.). (2009). *The psychology of goals*. New York, NY: Guilford.
- Nesse, R. M. (2000). Is depression an adaptation? *Archives of General Psychiatry*, 57, 14-20.
- Nigg, J. T. (2000). On inhibition/disinhibition in developmental psychopathology: Views from cognitive and personality psychology as a working inhibition taxonomy. *Psychological Bulletin*, 126, 220-246.
- Nigg, J. T. (2003). Response inhibition and disruptive behaviors: Toward a multiprocess conception of etiological heterogeneity for ADHD combined type and conduct disorder early-onset type. *Annals of the New York Academy of Science*, 1008, 170-182.
- Nigg, J. T. (2006). Temperament and developmental psychopathology. *Journal of Child Psychology and Psychiatry*, 47, 395-422.
- Overall, N. C., Fletcher, G. J. O., & Friesen, M. D. (2003). Mapping the intimate relationship mind: Comparisons between three models of attachment representations. *Personality and Social Psychology Bulletin*, 29, 1479-1493.
- Panksepp, J. (1998). *Affective neuroscience: The foundations of human and animal emotions*. New York, NY: Oxford University Press.
- Peabody, D., & De Raad, B. (2002). The substantive nature of psycholexical personality factors: A comparison across languages. *Journal of Personality and Social Psychology*, 83, 983-997.
- Peabody, D., & Goldberg, L. R. (1989). Some determinants of factor structures from personality-trait descriptors. *Journal of Personality and Social Psychology*, 57, 552-567.
- Pierce, T., & Lydon, J. E. (2001). Global and specific relational models in the experience of social interactions. *Journal of Personality and Social Psychology*, 80, 613-631.
- Rholes, W. S., & Simpson, J. A. (2004). *Adult attachment: Theory, research, and clinical implications*. New York, NY: Guilford.
- Roberts, B. W., & Bogg, T. (2004). A longitudinal study of the relationships between conscientiousness and the social-environmental factors and substance-use behaviors that influence health. *Journal of Personality*, 72, 325-354.
- Roberts, B. W., Walton, K. E., & Bogg, T. (2005). Conscientiousness and health across the life course. *Review of General Psychology*, 9, 156-168.
- Rogers, C. R. (1959). A theory of therapy, personality and interpersonal relationships, as developed in the client-centered framework. In S. Koch (Ed.), *Psychology: A study of a science* (Vol. 3, pp. 184-256). New York, NY: McGraw-Hill.
- Rothbart, M. K., Ahadi, S. A., & Evans, D. E. (2000). Temperament and personality: Origins and outcomes. *Journal of Personality and Social Psychology*, 78, 122-135.
- Rothbart, M. K., Ahadi, S. A., Hershey, K., & Fisher, P. (2001). Investigations of temperament at three to seven years: The Children's Behavior Questionnaire. *Child Development*, 72, 1394-1408.
- Rothbart, M. K., & Bates, J. E. (1998). Temperament. In N. Eisenberg (Ed.), *Handbook of child psychology: Vol 3. Social, emotional and personality development* (5th ed., pp. 105-176). New York, NY: Wiley.
- Rothbart, M. K., Ellis, L. K., & Posner, M. I. (2004). Temperament and self-regulation. In R. F. Baumeister & K. D. Vohs (Eds.), *Handbook of self-regulation: Research, theory, and applications* (357-370). New York, NY: Guilford.
- Rothbart, M. K., Ellis, L. K., Rueda, M. R., & Posner, M. I. (2003). Developing mechanisms of temperamental effortful control. *Journal of Personality*, 71, 1113-1143.

- Rothbart, M. K., & Posner, M. (1985). Temperament and the development of self-regulation. In L. C. Hartlage & C. F. Telzrow (Eds.), *The neuropsychology of individual differences: A developmental perspective* (pp. 93–123). New York, NY: Plenum.
- Rothbart, M. K., & Rueda, M. R. (2005). The development of effortful control. In U. Mayr, E. Awh, & S. Keele (Eds.), *Developing individuality in the human brain: A tribute to Michael I. Posner* (pp. 167–188). Washington, D.C.: American Psychological Association.
- Ryan, R. M. (1982). Control and information in the intrapersonal sphere: An extension of cognitive evaluation theory. *Journal of Personality and Social Psychology*, 43, 450–461.
- Ryan, R. M. (1993). Agency and organization: Intrinsic motivation, autonomy, and the self in psychological development. In J. Jacobs (Ed.), *Nebraska symposium on motivation: Developmental perspectives on motivation* (Vol. 40, pp. 1–56). Lincoln: University of Nebraska Press.
- Ryan, R. M., & Deci, E. L. (2001). On happiness and human potentials: A review of research on hedonic and eudaimonic well-being. *Annual Review of Psychology*, 52, 141–166.
- Ryan, R. M., & Deci, E. L. (2017). *Self-determination theory: Basic psychological needs in motivation, development, and wellness*. New York, NY: Guilford.
- Safran, J. D. (2017). The unbearable lightness of being: Authenticity and the search for the real. *Psychoanalytic Psychology*, 34, 69–77.
- Scheier, M. F., & Carver, C. S. (1992). Effects of optimism on psychological and physical well-being: Theoretical overview and empirical update. *Cognitive Therapy and Research*, 16, 201–228.
- Saucier, G., & Goldberg, L. R. (2001). Lexical studies of indigenous personality factors: Premises, products, and prospects. *Journal of Personality*, 69, 847–879.
- Schmitt, D. P., & Buss, D. M. (2001). Human mate poaching: Tactics and temptations for infiltrating existing mateships. *Journal of Personality and Social Psychology*, 80, 894–917.
- Schwartz, S.H. (1992). Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. In Mark P. Zanna (Ed.), *Advances in experimental social psychology* (pp. 1–65). San Diego, CA: Academic Press.
- Schwartz, S. H., & Bilsky, W. (1990). Theory of the universal content and structure of values: Extensions and cross-cultural replications. *Journal of Personality and Social Psychology*, 58, 878–891.
- Segal, N. L. (1993). Twin, sibling, and adoption methods: Tests of evolutionary hypotheses. *American Psychologist*, 48, 943–956.
- Shoda, Y., Mischel, W., & Wright, J. C. (1994). Intraindividual stability in the organization and patterning of behavior: Incorporating psychological situations into the idiographic analysis of personality. *Journal of Personality and Social Psychology*, 67, 674–687.
- Simpson, J. A. (1990). Influence of attachment styles on romantic relationships. *Journal of Personality and Social Psychology*, 59, 971–980.
- Simpson, J. A., Rholes, W. S., Oriña, M. M., & Grich, J. (2002). Working models of attachment, support giving, and support seeking in a stressful situation. *Personality and Social Psychology Bulletin*, 28, 598–608.
- Smith, E. R., & DeCoster, J. (2000). Dual-process models in social and cognitive psychology: Conceptual integration and links to underlying memory systems. *Personality and Social Psychology Review*, 4, 108–131.
- Smith, E. R., Murphy, J., & Coats, S. (1999). Attachment to groups: Theory and measurement. *Journal of Personality and Social Psychology*, 77, 94–110.
- Strack, F., & Deutsch, R. (2004). Reflective and impulsive determinants of social behavior. *Personality and Social Psychology Review*, 8, 220–247.
- Tellegen, A. (1985). Structure of mood and personality and their relevance to assessing anxiety, with an emphasis on self-report. In A. H. Tuma & J. D. Maser (Eds.), *Anxiety and the anxiety disorders* (pp. 681–706). Hillsdale, NJ: Erlbaum.
- Tooby, J., & Cosmides, L. (1989). Evolutionary psychology and the generation of culture, Part I. *Ethology and Sociobiology*, 10, 29–49.
- Tooby, J., & Cosmides, L. (1990). On the universality of human nature and the uniqueness of the individual. *Journal of Personality*, 58, 17–67.
- Trobst, K. K., Herbst, J. H., Masters, H. L., III, & Costa, P. T., Jr. (2002). Personality pathways to unsafe sex: Personality, condom use, and HIV risk behaviors. *Journal of Research in Personality*, 36, 117–133.
- Vallacher, R. R., & Wegner, D. M. (1989). Levels of personal agency: Individual variation in action identification. *Journal of Personality and Social Psychology*, 57, 660–671.
- Vohs, K. D., & Baumeister, R. F. (Eds.). (2016). *Handbook of self-regulation: Research, theory, and applications* (3rd ed.). New York, NY: Guilford.
- Walton, K. E., & Roberts, B. W. (2004). On the relationship between substance use and personality traits: Abstainers are not maladjusted. *Journal of Research in Personality*, 38, 515–535.
- Watson, D., Clark, L. A., McIntyre, C. W., & Hamaker, S. (1992). Affect, personality, and social activity. *Journal of Personality and Social Psychology*, 63, 1011–1025.
- Wiggins, J. S. (1996). *The five-factor model of personality: Theoretical perspectives*. New York, NY: Guilford.
- Wilson, T. D., Lindsey, S., & Schooler, T. Y. (2000). A model of dual attitudes. *Psychological Review*, 107, 101–126.
- Wright, R. A. (1996). Brehm's theory of motivation as a model of effort and cardiovascular response. In P. M. Gollwitzer & J. A. Bargh (Eds.), *The psychology of action: Linking cognition and motivation to behavior* (pp. 424–453). New York, NY: Guilford.
- Wright, J. C., & Mischel, W. (1988). Conditional hedges and the intuitive psychology of traits. *Journal of Personality and Social Psychology*, 55, 454–469.
- Wrosch, C., Miller, G. E., Scheier, M. F., & Brun de Pontet, S. (2007). Giving up on unattainable goals: Benefits for health? *Personality and Social Psychology Bulletin*, 33, 251–265.
- Zuckerman, M., Kuhlman, D. M., Joireman, J., Teta, P., & Kraft, M. (1993). A comparison of three structural models for personality: The big three, the big five, and the alternative five. *Journal of Personality and Social Psychology*, 65, 757–768.