

The Science of Personality

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Learning Objectives

After reading this chapter, you should be able to:

- Describe the beginning of personality psychology.
- Define *personality* and distinguish among the related terms of *character*, *trait*, *factor*, *temperament*, and *mood states*.
- Understand the importance of theory construction as it is related to personality psychology.
- Explain the importance of using scientific methodology in the study of personality.
- Identify and describe ways to assess and measure data and research.
- Identify and describe the tools and methods used to collect data and conduct research.
- Be familiar with some of the ethical issues related to psychological testing.

Chapter Outline

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Summary

Introduction

A judge is trying to determine whether a defendant is criminally insane. You read about a celebrity who can't seem to stop using drugs and getting into legal trouble and wonder what it is about their character that leads to the repeating of such mistakes. You wonder what makes people go out of their way to be kind or rude. Major corporations try to identify the best leaders to hire or employees that will stay with the company for a long time. Each of these questions (and many more) fall within the domain of personality psychology. However, there is a lot more to addressing these issues than simply formulating an opinion as to the answers. Theories can be developed and scientific studies designed to test the theories and maximize the prediction of outcomes. That is in essence the science of personality. In this chapter, the focus will be on how the scientific method is applied to the study of personality and how it has resulted in the development of a wide range of theoretical models.

1.1 Why Study Personality? An Overview of the Major Theories

In your everyday life, opportunities arise for you to consider the uniqueness of others. Sometimes you have an encounter that leaves you wondering why an individual would choose to act kind or meanspirited. At times, we are even unsure as to the reasoning behind our own behavior. Although it is certainly rational to consider the role of situations in explaining behavior, it is also reasonable to consider the role of the individual's character to explain and predict important outcomes. Indeed, of particular interest is the interaction between the situational influences and individual differences (also known as *personality*). This text is dedicated to examining personality and the important theoretical, research, and applied questions that emerge from its study.



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Christopher Dorner, former LA police officer who gunned down fellow officers and was subsequently killed.

Of course, a broad range of societal issues tend to grab our attention, especially high-profile criminal behavior, but regardless of the topic, it is typical for societal questions or problems to motivate the application of personality theory to real-world issues. Christopher Dorner, for example, was a former LA police officer who had also served in the Navy. He allegedly gunned down three fellow officers, apparently motivated by revenge for grievances related to his dismissal from the police force. After several killings and a Facebook manifesto riddled with threats, a massive manhunt ensued. Dorner was subsequently found, surrounded, and killed. Fortunately, such violent responses from disgruntled employees are relatively rare, even among the ranks of former police officers and those with military backgrounds. Thus, it is reasonable to ask what caused Dorner to act as he did—and can we predict and alter such behavior?

This text will provide an overview of some of the major theories of personality, along with research that in some instances supports, and in other instances fails

to support, aspects of those theories. Here is an overview of some of the dominant theoretical accounts of personality and how they might be applied to Dorner.

Theoretical Perspectives on Personality

There are seven primary schools of thought with regard to personality:

- psychodynamic
- neurobiological
- behavioral
- cognitive/social
- interpersonal/relational
- trait
- self-psychology (humanism/existentialism)

Each of these perspectives is covered in detail in the chapters of this text. Here, we present a brief introduction to each view and how they might apply to the case of Christopher Dorner. For a list of general treatment considerations for the different perspectives, see Table 1.1.

Psychodynamic Perspective

Psychodynamic theory, which was largely formulated by Sigmund Freud, suggests that we are driven to act by instincts that are sexual and aggressive in nature. This perspective suggests that

Beyond the Text: Classic Writings

Freud had a great deal to say about psychopathology, even suggesting that seemingly benign behaviors could be interpreted as problematic. Read *The Psychopathology of Everyday Life* (1901) at <http://psychclassics.yorku.ca/Freud/Psycho/>.

Reference: Freud, S. (1901). *The Psychopathology of Everyday Life*. London: T. Fisher Unwin.

we are constantly in conflict with ourselves and society. The theory posits that the rationale for all adult action can be traced back to how we related to our parents. Most importantly, the theory argues that the presence and exact nature of our motives (i.e., why we act in certain ways) is unknown to us.

Was Dorner preoccupied with acceptance by his parents? Did he have a conflict-ridden relationship with his father, resulting

in the “transference” of blame toward other authority figures? This perspective would also assume that Dorner would have little knowledge or insight as to the true motives behind his actions.

Neurobiological Perspective

One of the primary contributors to this perspective on personality was Hans Eysenck. He viewed humans as biosocial animals, and he sought to link the social and biological sciences within his theoretical framework. Eysenck suggested that the cause of behavior could be traced to brain functions; he focused specifically on differences in brain activation. For example, he believed that the ascending reticular activating system was the brain structure responsible for the manifestation of extraverted or introverted behavior. Significant advances in this perspective have been achieved with the advent of high resolution imaging techniques.

Did Dorner have some basic brain structural or neurochemical problem that would have resulted in the incidence of impulsive and aggressive behavior? Was Dorner biologically predisposed to violence based on the presence of aggressive behavior in his ancestors?

Behavioral Perspective

Rooted heavily in empiricism, the behavioral perspective has been influenced by the works of John Watson, Burrhus Skinner, John Dollard, and Neal Miller, to name a few. This perspective emphasizes the role of learning in personality; that is, it focuses on how we connect certain stimuli with specific behavioral responses. The concept of conditioning is especially central to this perspective, and much of the research is based on animal models (i.e., it was assumed that basic learning principles can be applied to all species of life).

Was Dorner reinforced for violent behavior in his upbringing or, more recently, was he given attention for his extreme actions? Did he come to equate, through conditioning, the fear he instilled with the respect he demanded from his colleagues?

Beyond the Text: Classic Writings

Watson wrote a classic paper that applies behaviorism to mental disease. Not surprisingly, he focuses largely on behavioral manifestations, but this is an important starting point. Read *Behavior and the Concept of Mental Disease* at <http://psychclassics.yorku.ca/Watson/mental.htm>.

Reference: Watson, J. B. (1916). Behavior and the concept of mental disease. *Journal of Philosophy, Psychology and Scientific Methods*, 13(22), 589–597.

Cognitive/Social Learning Perspective

This perspective was informed by such individuals as Albert Bandura, Julian Rotter, and George Kelly. The cognitive perspective emphasizes how individuals uniquely perceive, interpret and recall events in their lives, and how this can shape their character. That is, this perspective highlights the importance of how reality is constructed by an individual, rather than being determined by an objective reality. The cognitive perspective has also been closely linked to social learning theory, which focuses on learning through modeling (i.e., observing the behavior of others).

Beyond the Text: Classic Writings

Bandura and colleagues have specifically studied how aggressive behavior in children is repeated after it is modeled for someone. Modern research has largely confirmed these findings, even for adults, and here you can read one of the first classic publications in this area. Read one of his papers on modeling at <http://psychclassics.yorku.ca/Bandura/bobo.htm>.

Reference: Bandura, A., Ross, D., & Ross, S. A. (1961). Transmission of aggression through imitation of aggressive models. *The Journal of Abnormal and Social Psychology*, 63(3), 575–582.

Had Dorner been exposed to examples of violent behavior in his own home or in popular media, and so he simply mimicked what he saw? What was his unique way of interpreting the events that led up to the killings and his own death?

Interpersonal/Relational Perspective

The interpersonal perspective emphasizes how interactions with others, especially dyadic interactions, drive personality. This is a departure from theories that largely focus on the individual because the focus is on the interaction with others. This approach includes the works of Harry Sullivan, Henry Murray, and Murray Bowen. Relationships, including relationships that may be more artificial in nature (such as the one that a patient might have with a therapist), are the primary focus, and these theorists think that they undergird personality development.

Were Dorner's relationships with his former colleagues marked by deviant exchanges, during which he experienced confusing and contradictory emotions? Did he have problematic interactions with authority figures in his life?

Table 1.1: Treatment considerations for theoretical perspectives

Theoretical perspective	Approaches for treatment
Psychodynamic theory	Can conflict in parent-child relationships be used to predict who has the greatest propensity for violent behavior as an adult? Can we intervene with therapy in the family of origin to minimize aggressive behavior later in life? Can making an individual aware of unconscious conflict allow that individual to redirect aggression toward safer, more appropriate expressions?
Neurobiological	Can the presence of neurochemical or neurostructural abnormalities be accurately detected? Can those with such problems be identified and treated to minimize aggressive behavior later in life?
Behavioral	Can token economies be employed to help individuals' value prosocial, rather than antisocial, behavior? Can individuals who are engaging in aversive behavior be reconditioned to demonstrate more socially acceptable behavior?
Cognitive/social learning	Can long-term exposure to violence in television, movies, video games, and other forms of media entertainment predict the incidence of violence, and can we curb such violence by minimizing exposure? Is it possible to intervene by helping individuals interpret events differently (i.e., in a more favorable light)?
Interpersonal/relational	Can we examine an individual's interpersonal style with others to identify signs of problematic behavior? Is an individual routinely involved in attempts to control and blame others? Could complementary relationships be used to alter the structure of more problematic relationships?
Trait	Can the personality traits that predict the incidence of various forms of mental illness or violent and aggressive behavior be detected? Can we find more adaptive outlets for these traits?
Self-psychology (human/existential)	If an individual is provided with support and acceptance, is violence, or even the thought of violence, mitigated? Are feelings of isolation the root of anxiety and other disorders, and do feelings of isolation exacerbate extremist thinking?

Trait Perspective

The trait perspective has had many significant contributors, including Gordon Allport and Raymond Cattell in the early years and researchers such as Paul Costa and Robert McCrae more recently. This perspective assumes that there is a broad framework for organizing traits, which are essentially descriptive terms or labels used to characterize a person's personality. Trait theorists focus largely on measuring traits, understanding the associations between them, and investigating their underlying causes (most typically linked to biological mechanisms). In order to help organize the great many traits that have been employed to describe human behavior, researchers in this area have used advanced statistical techniques, such as factor analysis. In many ways, traits also represent the vernacular most used by lay individuals when describing personality.

What traits would have made Dorner most susceptible to turning to violence? Did he have a long-standing tendency for violence or aggression that could have been predicted from other traits, such as dominance or poor frustration tolerance?

Self-Psychology (Humanistic/Existential) Perspective

This perspective reflects an attempt to conceptualize human behavior in a more favorable light, emphasizing our tendencies for growth, achieving our highest potential (ideal self), and understanding our existence (why we are here). Key early contributors included Carl Rogers, Abraham Maslow, and Rollo May. More recently, the positive psychology movement, which is dedicated to building thriving individuals and communities, has represented a resurgence of this perspective.

Was Dorner feeling powerless until he began to take matters into his own hands by killing others and drawing attention to his cause? Had Dorner lost the ability to value life? Had he been placed in a situation where those around him only valued him if he engaged in specific behaviors?

These general theoretical applications establish a framework upon which more specific questions can emerge. There are also important questions that can be applied to all perspectives. For example, to what extent was Dorner fully aware of his actions and their consequences? Was there anything that could have been done to intervene and alter Dorner's behavior? Was there a point in the sequence of events leading up to the first shooting after which no intervention was possible? Contemporary personality theorists and researchers provide us with a scientific basis to understand the most essential questions in life. The goal of this text is to not only demonstrate the importance of these questions, but more importantly, to establish a structure for how to optimally frame the questions and how to devise the best way to scientifically answer them.

The Early Beginnings of Personality Theory

The earliest pioneers of scientific work that has been associated with the field of psychology include Wilhelm Wundt, who used quantitative methods in studying perceptions, sensations, cognitions, and feelings. He considered these the "atoms" of conscious experience and thought that by understanding them he would understand the *structure* of the mind—hence the label **structuralism** for his school of thought. William James considered psychology to be a natural science and was largely responsible for introducing experimental psychology to the United States.

However, the field of personality psychology began to coalesce in the 1930s, with the publication in 1937 of Gordon Allport's *Personality: A Psychological Interpretation*. During this same decade, the journal *Character and Personality* was established, which was one of the first psychology journals to use the term *personality* in its name, and the comprehensive works of Kurt Lewin and

Henry Murray, two of the founding fathers of contemporary personality research, were published. Although individuals, such as Sigmund Freud and William James, whose life work would later be included in the personality domain, predated this time period, it was in the 1930s that the specialization of personality psychology emerged, growing out of the primary area of clinical psychology (see also Barenbaum & Winter, 2013).

The earliest roots of personality theory emerged from clinical experience. Indeed, much of what we have come to understand about personality comes from clinical observation and psychometric testing of individuals with disordered personalities (abnormal psychology or psychopathology). Clinical observations, in the form of thousands of published case summaries, make up the foundation of some of the more well-known theories of personality, and these theories have contributed to the current system of classification of mental disorders. The understanding and advancement of personality theory is inextricably linked to developments in the field of psychotherapy, and a wide range of models have been proposed to explain the association between these two fields (see Mayer, 2004). Psychotherapy became a branch of psychology during the 20th century, and the birth of modern psychotherapy can be traced to Freud's developing a comprehensive theory of psychic functioning. Moreover, many important personality theorists were psychiatrists (Freud, Jung, Sullivan) or clinical psychologists (Carl Rogers, George Kelly). This resulted in a marriage between psychotherapy, one branch of clinical science, and the study of what makes us unique.

The clinical perspective continues to be an important lens through which to view personality, largely because clinical work is concerned with behavior or personality change. Psychotherapy has traditionally provided one means of observing, measuring, diagnosing, and treating personality and related disturbances. However, personality is also relevant to nonclinical functioning, and has more recently been associated with the positive psychology movement, reflecting the optimal experience of life (e.g., Sheldon, Kashdan, & Steger, 2011). In this respect, modern personality psychology is much broader than its predecessor, as it has been applied to all aspects of human experience.

Applying Science to Personality

Although humans have been conducting experiments in various less formal ways since appearing on the earth, it isn't until recent history that science has become more widely accepted (Lathrop, 1969). Science presents ways of experimenting that are potentially far less costly and more efficient than our primitive "trial and error" methods.

Gordon Allport was one of the first to focus on the study of the personality, though his biggest contribution was not so much what would be the target of study in personality psychology, but, more importantly, how it would be studied. Allport advocated a clear shift toward studying the individual person within a social science framework (see Allport, 1937).

The term **personology**, which was coined by Murray (1938), refers to the development of theoretical systems for explaining and understanding human behavior. As examples, consider the theoretical perspectives briefly introduced in this chapter that were used to explain the behavior of Christopher Dorner. These diverse theories offer markedly different explanatory frameworks for the same observations, and they emphasize different factors. Psychologists or social scientists who engaged in personology were identified as *personologists*. Murray specified that the methods of personologists are those of science, in that they make systematic observations and use scientific methods to test hypotheses. Although the term *personology* is used less frequently today, an emphasis on scientific methods remains central to the field (see Section 1.4, "The Scientific Method," for more details).

Theoretical systems are generally based on scientifically established constructs. A construct is a tool—usually a concept, model, or idea—that is useful for organizing observations and making them meaningful. For example, conditioning is a construct (a model) that is used to understand various forms of learning. An important construct for understanding both normal and abnormal human behavior, the central subject of this volume, is the concept we know as personality (and, in pathological versions, personality disorders or dysfunctions).

Personality theorists study personality using tools of psychological science to assist in the development of theoretical paradigms, or models, that attempt to explain human behavior. Researchers have developed a variety of **theoretical models**, reflecting their different perspectives, to explain how personality operates. These theories will be discussed in the chapters of this text, along with the scientific research used to establish, evaluate, and expand those theories. This first chapter will also introduce you to some of the primary scientific methods employed by researchers in this field.

1.2 Defining Personality

The term *personality* is a well-established part of everyday speech. Countless popular magazines feature articles about personality, promising to help us learn how to deal with difficult people, how to live with those who have personality disorders, how to become leaders and heroes and wonderfully thin and attractive people. We use the term *personality* in day-to-day language, and we invoke a wide range of adjectives to characterize others and ourselves. In this sense, *personality* has become an implicit construct for the general public; it is not fully or specifically defined in that context, but it is commonly understood and accepted, nonetheless. However, when we use the term within the scientific field, *personality* should be seen as a theoretical construct, invoked to help us understand individual differences.

From a more formal standpoint, theorists and researchers have defined **personality** as a pattern of behavior, affect (emotional experience), or cognition (thoughts) that is typical of the individual, evidencing some degree of stability over time and across situations. The references to *behavior*, *affect*, and *cognition* in the definition also speak to the breadth of personality psychology as it attempts to encompass diverse contributions from subdisciplines within psychology as well as influences from other fields.

The Stability and Change of Personality

Our intuitive notions suggest that personality is stable, and this would be in keeping with most theoretical models of personality and its operational definition. Moreover, several researchers have devoted a significant part of their careers to establishing that personality is stable (e.g., Block, 1971; Kogan & Block, 1991; McCrae & Costa, 1994; see also Bleidorn, Kandler, Riemann, Angleitner, & Spinath, 2012), and this is now widely accepted as a central component of most personality theories.

Of course, personality can change, even dramatically, though typically there are some unusual events that lead to such change. For example, in one of the most famous cases in neuroscience, Phineas Gage, while working on a railroad, had a steel tamping rod shoot right through the frontal lobe of his brain. As a result, he apparently experienced a dramatic change in personality. Whereas he had previously been a quiet, hard-working, dependable employee, he became childish, obstinate, self-indulgent, and given to excessive profanity. In some cases, brain-injured individuals

who had been severely aggressive became more docile; others, like Phineas Gage, who were initially gentle and pacific, became extremely violent after suffering brain trauma. Case studies have also shown that the long-term influence of alcohol or drugs can change personality, and progressing dementia, such as Alzheimer's, can result in personality changes, such as individuals becoming more paranoid and even aggressive.

Beyond the Text: Research Spotlight

How do researchers determine if your personality is generally stable or variable across the lifespan? In a recent study conducted by Terracciano, McCrae, & Costa (2010), a new approach to answering this question was employed. Their findings suggest that the stability of personality appears to increase with age, though this association stops at approximately age 30. After reading about this study, discuss the relative advantages and disadvantages to the approach used to answer this question. Read the article at <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2839250/>.

Personality, Temperament, Character, Traits and Factors, and Mood States

Central to the notion of personality are the related, but theoretically distinct, constructs of temperament, character, traits and factors, and mood states.

Temperament

Temperament generally refers to an individual's basic biological predispositions, which are thought to be present at birth. For example, most parents can discern clear temperamental differences in their children, despite their genetic relatedness. Some infants appear to be "difficult," whereas others are seen as being "easy." Some are outgoing and tend to explore the world easily, whereas others are more shy and introverted. Dimensions of temperament are thought to reflect a strong genetic basis, largely because the infant has had relatively little time for the environment to be a major influence.

Given that temperament is defined as one's natural tendency to behave outside of extended environmental influence, there has been some debate as to whether temperament is actually synonymous with personality—whether the two are in fact one and the same. Recently, the argument has been made that the two concepts are more alike than they are different (e.g., Caspi, Roberts, & Shiner, 2005; McCrae et al., 2000). Specifically, Caspi and colleagues cite a confluence of research suggesting that personality and temperament both (1) show moderate genetic influence, (2) are influenced by environmental factors, (3) focus on differences in the experience of positive and negative emotions for the most central traits, and (4) characterize traits that overlap with nonhuman species. In fact, the more interesting question no longer appears to be whether personality changes during the lifespan (the general consensus is that it changes very little), but, instead, the focus is on determining the points in one's life where change is most likely to occur (Caspi et al., 2005).

Character

Character is a commonly used term that generally refers to basic, enduring traits related to moral or ethical qualities. Character might be described in terms of characteristics such as integrity, honesty, morality, and stability. Character assessment judges how a person acts in various contexts. For example, what type of character would explain an apparently remorseless individual? Explanations based on character are most often seen in the psychodynamic literature to describe the inner workings of such people. The term *character* was used early in the literature, whereas *personality* is now much more common.

Traits and Factors

Traits are specific, stable features of personality such as persistence, integrity, and honesty. Using factor analysis, trait psychologists have done extensive studies to group related specific traits into broader factors that can account for variations in personality. For example, the traits *kind*, *affective*, and *sympathetic* have been grouped into the main factor *agreeableness* in the “big five” factors of personality (Costa, McCrae, & Dye, 1991). Thus, the primary distinction between *traits* and *factors* is the level of study, with traits at the lower level, reflecting more specific constructs. In contrast, factors reflect broad aggregates of related traits, and they provide an organizational framework for traits.

Mood States

Mood states refer to conditions that fluctuate over time and across situations. Recall that a trait is a stable and predictable personality characteristic that is consistent in various situations and over time. These distinctions are important for understanding personality. For example, George, who is depressed today, may withdraw and appear preoccupied and difficult to engage interpersonally. If we assess his personality at this time, his depressed state (or *mood*) might lead us to the inaccurate conclusion that he is introverted (trait). Later, when he is no longer depressed, George might become more outgoing and socially responsive. Thus, a personality trait may be profoundly influenced by an affective state, or mood state.

Although we can make a conceptual distinction between a state and a trait, there is some ambiguity when considering the extent to which behavioral, affective, and cognitive patterns must be present before they are labeled as personality, as opposed to the more transient mood state (Lecci & Wirth, 2006). In fact, no clear definition of stability has been articulated, but clearly the longer a behavior, affect, or cognition lasts, the more likely it would be characterized as personality. One can also examine measures of personality relative to measures of mood to find some of the practical differences. For example, when assessing personality, researchers will often ask how people think, feel, and act “in general.” Whereas when focusing on mood-type constructs, the assessment tools might ask how people are thinking, feeling, and acting at that particular moment.

Culture

While temperament, character, traits and factors, and mood states are all important constructs, culture is another component that must be considered in the study of personality. Most of the theories we will cover in this text emphasize to varying degrees the importance of early experiences in the development of personality, and many scholars believe that parenting styles are determined to a high degree by the dominant culture of the parents (Chang, 2007; Keshavarz & Baharudin, 2013).

Part of the socialization (parenting) process is passing on cultural values (Corsaro & Elder, 1995). Emile Durkheim’s (1912) seminal work “The Elementary Forms of Religious Life” sheds some light on this process. Durkheim’s basic argument is that shared enacted social practice is the foundation of both cognition and morality, and that religious practice is the best illustration of this dynamic. While the predominant thinking of his day was pragmatism, for Durkheim, the dynamic relation was inherently socially based, and the critical action was social action (mostly in the form of enacted social practice), not individualized problem solving. Social practice (which included religious practice) was a way for people to meet their personal as well as their social needs, and had a fundamental impact on the individual life experiences of the members of the social group. He

believed that socially enacted practices create the individual experiences. Thus, the personalities of a child raised in a devout Amish community, one raised in a Jewish home, one raised in a commune, and one raised by atheists in a high-rise in Manhattan are bound to have differences based on their cultural environment. And those are just examples from American culture.

Bronfenbrenner's (1972) research demonstrated how the then powerful communist culture impacted the socialization of Russian children. It is interesting to note that after a few generations, the family, the state, the school, and the peer group all participated in socializing the conformity necessary to maintain the communist system.

Even perceptions of temperament are affected by culture. What is considered an easy or a difficult temperament in children depends on cultural values. Dworetzky and Davis (1989) cite a study of easy and difficult children done in 1984 among the Masai, a nomadic tribe of African warriors. They found that, because of the harsh environmental conditions, those children that Westerners would consider difficult were actually more highly valued by their parents and had much lower rates of childhood mortality. In this case, the "difficult" behaviors actually increased the child's chances of surviving to adulthood, while the easy (more passive—less demanding) children received less attention and died with much greater frequency. More recently, Haase, Jome, Ferreira, Santos, Connacher, and Sendrowitz (2014) found that culture influences individuals' capacity for tolerating information overload. Even idioms and proverbs in different cultures may reflect variations in what characteristics of the individual are most valued. We are familiar with the saying "the squeaky wheel gets the grease," which suggests that an extroverted individual who is self-focused in their approach may be more adaptable. However, the Japanese proverb "the nail that stands out gets hammered down" might suggest that a more introverted and group-focused mentality is preferable.

But culture is a difficult construct to include in a concise theory because culture does not describe one way of being; it describes thousands of diverse and nuanced ways of being that can change or be changed. Nevertheless, it cannot be ignored when looking at the development of personality (see Chapters 6–9 for specific examples of cultural considerations as they apply to different theoretical perspectives).

A second way that culture impacts our study of theories of personality is to look at who is doing the theorizing. For the most part, the predominant theories in personality development come from Western thinkers. The inclusion of other cultures is a relatively recent phenomenon. In fact, a meta-analysis done by Henrich, Heine, and Norenzayan (2010) noted that "behavioral scientists routinely publish broad claims about human psychology and behavior in the world's top journals based on samples drawn entirely from Western, Educated, Industrialized, Rich and Democratic (WEIRD) societies. Researchers—often implicitly—assume that there is little variation across human populations or that the 'standard' subjects are as representative of the species as any other population" (p. 1). This does not negate the value of psychological studies and their resulting theories. It is, however, important to understand the lens through which those theories were conceived.

Nature and Nurture

One of the oldest debates about human nature concerns how much of our personality can be traced to biology and genetics (nature) and how much depends on our upbringing, environment, and culture (nurture). Research suggests that part of this answer depends on which aspect of personality is being studied. For example, when considering the trait of neuroticism, it appears

that there is a relatively strong genetic component, with genetics accounting for upwards of 60% of the variability in neurotic behavior (e.g., Saudino & Plomin, 1996; see also Plomin, Haworth, Meaburn, Price, & Davis, 2013). In contrast, traits like creativity (also referred to as openness to new experience) appear to be influenced to a greater degree by one's environment.

However, the trend has been to move away from the traditional contrast of nature versus nurture. In fact, the nature-nurture debate has more recently been referred to as a false duality (Traynor & Singleton, 2010), such that, with few exceptions, we have come to understand that both the environment of the individual and the individual him- or herself are significant contributors to the resulting action. Indeed, taking the above examples of neuroticism and creativity, it is still the case that the environment plays a substantial role in neuroticism, and genetics are still influential with creativity.

Within the field of personality psychology, the nature-nurture distinction was captured by the "person-situation" debate, which examined how stable a person's personality is across varied contexts. Researchers initially vied for who could explain more variability in human behavior (e.g., Bem & Allen, 1974; Epstein & O'Brien, 1985; Mischel, 1968). However, more nuanced questions subsequently emerged, focusing instead on the circumstances under which either nature or nurture may have a greater influence on behavior. The latter includes defining complex interactions, such as how some traits are especially salient for certain individuals and therefore demonstrate greater cross-situational consistency compared to those same traits in others for whom the traits are less salient (e.g., Cheek, 1982; Zuckerman, Koestner, Deboy, Garcia, Maresca, & Sartoris, 1988). Currently, the person-situation debate adopts an integrative perspective with a focus on the interaction between the two (e.g., Donnellan, Lucas, & Fleeson, 2009; Webster, 2009).

Epigenetics

While the nature versus nurture question has been a staple of psychological debate and research for years, the emerging field of epigenetics is rendering that dichotomy obsolete. Sigmund Freud believed that "anatomy is destiny," that our gender and our genes determine who we become. On the other extreme, the early behaviorists believed that the environment was king, that we are little more than the response to whatever stimuli we encounter. If you want a different response, just change the stimulus. However, we now know that the two are not distinct and mutually exclusive forces leaving their mark on our development, but that environment actually triggers or lays dormant the expression of our genes.

Epigenetics is a revolutionary and burgeoning field of scientific study. Scientists have discovered that our environment creates chemicals that work on the genetic code of our DNA, and it is the process of our DNA sending a message to our RNA (known as *transcription*) that becomes the template for protein synthesis. This is where the action and the outcomes occur. In *Epigenetics: How Environment Shapes our Genes*, Frances describes the process like this. Rather than the gene being the controlling executive in this process, think of it more like the gene is a "member of an ensemble cast of biochemicals, the interaction of which constitutes a cell. The executive function resides at the cell level; it cannot be localized in its parts. Genes function as material resources for the cell. In this view, each stage of protein synthesis is guided at the cellular level. But most fundamentally, the 'decisions' as to which genes will engage in protein synthesis at any point in time is a function of the cell, not the genes themselves" (Francis, R.C., 2011, p. 19). And these cellular decisions are affected by our environment and, in some cases, the environments of our ancestors (Simmons, 2008).

So it is really the interplay between our nature (our genes) and our nurture (our environment), rather than each one's impact on us, that is important. Twin studies have long been used to study heritability. Monozygotic twins (identical twins) share exactly the same DNA, yet they don't always develop exactly the same way. Epigenetics provides the explanation as to why one twin might develop schizophrenia while the other does not, even though they both would have inherited the predisposition and most likely share similar environments, at least in infancy (Carey, N., 2012). We will explore more about emerging neurosciences like epigenetics in Chapter 4.

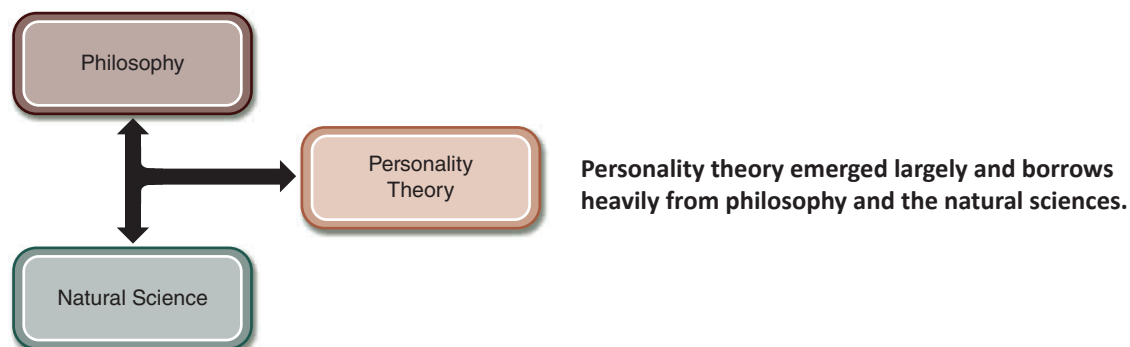
How Related Disciplines Have Contributed to Personality

Personality is not only the province of the behavioral sciences and personality theorists. Other disciplines are also concerned with personality and character and seek to understand the basic forces that operate within all human beings. Here we briefly touch upon a few of the fundamental disciplines underpinning the foundation of personality psychology.

Philosophy

Psychology emerged from its sister discipline, philosophy, which is concerned with understanding human nature. Strong philosophical underpinnings are apparent in various systems of psychological thought. In fact, the word *psychology* was derived from *psyche*, a term used by the Greek philosophers Plato and Aristotle, each of whom speculated on the nature of humankind. The term *psyche* remains a frequently used concept today in both psychology and philosophy, and it is generally meant to capture the essence of the human mind: "To Aristotle, psyche basically meant living" (Watson, 1963/1971, p. 54). The influence of philosophy was prominent early on, with Aristotle's theoretical account of the three psyches (also known as *souls*: rational, animal, and vegetal) reflecting the essence of psychology until the 19th century (Rohde, 1925). However, psychology and the specialty of personality began experiencing a shift in the primary methods to investigate the psyche, with a clear preference for the scientific methods used in the natural sciences. Thus, philosophical reasoning eventually gave way to observation (both introspection and case studies) and rigorous experimentation as the primary means of collecting data and revising theories. In this respect, personality theories have their roots in two disciplines: philosophy and natural science (see Figure 1.1).

Figure 1.1: Personality theory and its relation to other disciplines



Literature

Literature reveals much about human nature. Writers offer a view of human beings that often shows profound insight into the struggles of existence and how people from various ethnic and cultural backgrounds and historical periods navigate through these conflicts. Much of our fascination with literature is based on our desire to understand ourselves. In the lives of fictional characters, we see the influence that environmental, family, and genetic factors can exert on people.

Elements of classical literature can be seen in many theories of personality. In the development of psychoanalytic theory, Freud drew from Greek mythology and from Shakespeare. For example, the notion of the Oedipus complex is borrowed from multiple sources, including *Hamlet*, and Sophocles' play, *Oedipus Tyrannus*, and our current term *narcissism* comes from the Greek myth of Narcissus. Some of the earliest work of trait psychologists also focused on the analysis of language (i.e., adjectives used to describe human behavior) as the starting point for identifying the most fundamental factors that underlie all traits (Goldberg, 1981; see also Ashton, Lee, & Goldberg, 2004).



Peter Barritt/SuperStock

Our modern-day term *narcissism* is based on the ancient Greek myth of Narcissus, who could not leave his reflection and wasted away, gazing at it, so much that he eventually fell into a river and drowned.

Theology

Religion offers another valuable perspective on the nature of humankind. Theology attempts to understand our relationship to a greater power. Various religions make assumptions about the nature of good and evil and about which traits we should strive to emulate that will bring us closer to a divine being. Theological systems offer alternative understandings about human nature and the possibility of transformation.

For example, a key figure in personality psychology, Carl Rogers, forwarded a theoretical perspective that was clearly influenced by his exposure to Christianity and two years in seminary. Rogers developed the person-centered approach to understanding people and was also one of the founders of what has become known as the humanistic perspective (see Chapter 9). At the heart of his theory was the belief that we are good, even ideal, individuals, who

Beyond the Text: Classic Writings

We discuss in this text how other disciplines contribute to psychology, but other authors have debated which discipline psychology most closely matches and tried to determine the one with which it should be affiliated. See, for example, a summary of James Hume's (1909) view by visiting <http://psychclassics.yorku.ca/Hume/affiliation.htm>.

Reference: Hume, J. G. (1909). The proper affiliation of psychology: With philosophy or the natural sciences. *Psychological Bulletin*, 6, 65–67.

only evidence problematic behavior when placed in forced circumstances (known as conditions of worth). His theory assumed that the ideal self would emerge when given unconditional positive regard, and this represented a central aspect of his clinical interventions. Similarly, the concept of the *unconscious* resembles ideas reflected in Buddhism and Taoism (see Harvey, 1995). For example, the concept of Tao, or “no mind,” emphasizes that which cannot be known in oneself. More recently, clinicians have borrowed the Buddhist concept of *mindfulness* (i.e., being completely aware of the present moment, with a nonjudgmental framework) for therapeutic gain. From these examples, it is evident that psychology has roots in ideas from religions around the world.

Defining Normal

Throughout this text, we will be looking at normal and abnormal behavior, so it is important to take a step back and ask the question: Who gets to decide what is normal and what is not? And who decides who gets to decide?

This is an important question and one that social scientists need to keep in mind. What is considered to be normal human behavior has been defined differently by different cultures in different times. There is no constant “normal.” Normal is an interpretation. In ancient Aztec culture, it was normal to cut out and eat people’s hearts (Harner, 1977); such behavior now would be considered deviant and criminal. Homosexuality was common and considered normal through much of the history of the world. It is well known that homosexuality was practiced and accepted in ancient Rome, and there is ample evidence that the same was true in places as diverse as Africa, Peru, and China. Homosexuality was a normal part of many societies (Aldrich, 2004; Nussbaum, 2002; Tomso, 2002). Yet, the first version of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM) published by the American Psychiatric Association (APA) in 1952 classified homosexuality as deviant and abnormal. Why? Probably because the membership of the APA was overwhelmingly White, middle-aged males from a culture where homosexuality was considered wrong or even criminal—a product of the time and the culture.

We have witnessed the change in thinking on this issue with the evolution of social norms. In 1973, homosexuality was taken out of the DSM and no longer considered “abnormal” behavior. However, in 1980, due to pressure from conservative psychiatrists and psychoanalysts, a new diagnosis, *ego-dystonic homosexuality*, was added back into the DSM as a disorder. The diagnosis criteria included symptoms of “unwanted” homosexual urges and lack of heterosexual desire. This move was widely criticized as political, and in 1986, any reference to homosexuality was removed for good. The evolution of the APA’s perspective on homosexuality is a strong illustration of the point that normal is relative.

As we have just read, philosophy, literature, and religion have all contributed to the evolution of psychology. The work of two French philosophers, Michel Foucault and Pierre Bourdieu, is germane to this discussion. Both men focused on the idea of who gets to define “normal,” and both concluded that it had a lot to do with social power. Foucault wrote about prisons and mental institutions (who ends up there and why), and Bourdieu wrote about language (who gets to define legitimate language), but their ideas were similar. Those societies with power and those in the society who have power define what is normal and what is not.

Foucault became interested in power while writing his histories of phenomena such as madness, imprisonment and punishment, and sexuality. He was actually one of the first to view these as historical objects of study, and he found that when he listened to the perspective of the mad,

the imprisoned, the punished, or the sexually deviant, he heard a very different history than that which might be presented by the doctor or lawyer. Foucault postulated an analogous relationship between knowledge and power and began to question the epistemological bases of the “production of truth.” He believed that just as a minority can physically force its will on the majority, so too can a minority mentally force its conception of truth on the majority (McHoul, 1993).

He was especially interested in looking at normal and abnormal as created categories. He studied madness, illness, criminality, sexual perversions, and other behaviors that were considered abnormal in his time and showed through his historical studies that these same behaviors had not always been so defined. “Behavior that got people locked up or put in hospitals at one time was glorified in another” (Fillingham, 1993, p. 16). Foucault believes that the abnormalization of madness arose to fill the void created by the disappearance of leprosy at the end of the middle ages (Sarup, 1993).

While other people were studying the normality or abnormality of certain behaviors, Foucault was asking questions on a much higher level. He wanted to know how “normal” was being defined and by whom. He believed the definition and study of abnormality was a primary method of the establishment of power in society, because “when an abnormality and its corresponding norm are defined, somehow it is always the normal person who has power over the abnormal” (Fillingham, 1993, p. 18).

Similarly, Bourdieu argued that those groups within the society who wield the most political and social power control the use of and assign value to language within that society. “The social uses of language owe their specifically social value to the fact that they tend to be organized in systems of differences (between prosodic and articulatory or lexical and syntactic variants) which reproduce, in the symbolic order of differential deviations, the system of social differences” (Bourdieu, 1991, p. 54).

In a 1980 essay entitled “The Production and Reproduction of Legitimate Language” (later translated into English and included in his 1991 work *Language and Symbolic Power*), he argues that language and power (he refers here to both political and social power) are inextricably intertwined.

So while normal and abnormal in psychology are clearly defined in the DSM-5, it is important to note that it is highly influenced by western predominantly male thinking and has been criticized by many for its lack of cultural inclusiveness. Pretty interesting stuff.

1.3 Theory: A Way of Organizing Complex Phenomena

The root word for *theory* is the Greek word *theoria*, meaning to view or contemplate. **Theories**, which are a system of ideas used to explain any phenomena, are important to any scientific study because they provide a context within which to interpret findings. Personality theories allow one to develop relevant research, establish a framework for interrelating different research findings, and, most importantly, allow for *a priori* predictions. The term *a priori* refers to the ability to make predictions based on theoretical deduction rather than empirical observation. That is, theories allow researchers to predict the outcome of a research study before actually seeing the

data. When a theory results in *a priori* predictions, this allows the researcher to design a study that could, depending on the outcome, disprove (or falsify) the theory that generated the predictions (Popper, 1963). Thus, ideally, theories should result in very specific predictions, and when one designs an experiment to test the accuracy of the theory, then this can be described as *strong inference* (see Platt, 1964; see also Davis, 2006). This can be contrasted with research that does not generate specific hypotheses in advance, and instead simply explains all or many outcomes after the fact.

As an illustration, consider the theories we described earlier in this chapter to account for Dorner's actions. Hypothetically, if psychodynamic theory predicts that such violent behavior would have to result from a strained or absent relationship with one's parents (operationally defined as either a divorce or having an estranged parent), then one could make a specific prediction regarding the nature of Dorner's family of origin. If, however, it turned out that his parents remained happily married and were both present and supportive during his formative years, then this would serve to refute the theory. The ability to make such specific predictions is less typical of some psychological theories, and as a result, those theories would not result in strong inference.

In order for a discipline to advance scientific knowledge, there is a need for strong inference. Wilson (1998) describes the importance of theory in the practice of science: "Nothing in science—nothing in life, for that matter—makes sense without theory. It is our nature to put all knowledge into the context in order to tell a story, and to recreate the world by this means" (p. 52).

All branches of science require a way to make observations and classify data, a set of propositions, and a theory for organizing the data into a comprehensible framework that can guide further developments and generate testable hypotheses. The theory must then stand the test of empirical examination, which will either confirm or refute it and may lead to outright rejection or modification. The need for empirical proof is one of the features of science that separates it from other disciplines, such as theology and philosophy.

Building and Characterizing a Theory

Advanced development of a discipline usually requires building a theoretical model that explains and predicts observations. For example, major advances were made in the biological sciences when investigators began to develop theoretical models showing how pathogens cause disease. Even though the viruses and bacteria responsible for the spread of disease had been identified, little progress was made until theories were advanced.

Theories provide a kind of map for organizing knowledge. One of the major advancements in knowledge was achieved by Charles Darwin when, after spending years observing and classifying the natural world, he proposed the theory of evolution. Not only did this model explain biological diversity on the basis of natural selection, but it continues to influence many disciplines, including the study of personality (see Chapter 4 for a discussion of evolution's role in the structure of the brain).

Theories can be evaluated along a number of dimensions or features. For example, Rychlak (1968) describes the main features of theoretical systems of personality (see also Rychlak, 2000). These are presented in Table 1.2.

Table 1.2: Possible descriptive features of theories

Abstract	Concrete
Concepts tend to be esoteric and can be interpreted in different ways.	Observable data are emphasized and constructs follow in the form of laws.
Realistic	Idealistic
There is an observable external world that is unchanging.	Reality is in the mind of the observer.
Objective	Subjective
Experience can be reliably observed when the proper criteria are used.	There is a level of knowledge that is personal and not observable.
Introspective	Extrospective
The observer can realistically observe the self.	The observer cannot accurately observe the self and must be detached from the point of observation.
Formal	Informal
Laws and postulates are clearly articulated and logically connected.	Laws and postulates are loosely formulated and connected.

Abstract Versus Concrete

Theoretical constructs are abstractions, but the level of abstraction can vary considerably. Behavior theory and psychoanalytic theory were at odds with one another early in the evolution of personality theory; comparing and contrasting them can be useful. For example, as shown in Table 1.3, classic behavior theory tried to deal with concrete, **observable data**, using as little abstraction as possible. In contrast, psychoanalytic theory is highly abstract and is often accused of using terminology so vague that the meanings of its own terms are undermined. The level of abstraction presents advantages and disadvantages. For example, behavior theory stays close to empirical truths by limiting abstraction, but it is less able to describe the complexity of human personality. On the other hand, psychoanalysis presents a theory and a vocabulary rich in explanatory potential, but the explanations it provides are sometimes too abstract to allow for scientific study, and its vocabulary is frequently burdened with multiple meanings for the same terms.

Table 1.3: Comparison of behavioral and psychoanalytic models

Behavior theory	Psychoanalytic theory
Little abstraction, terms precisely defined	Highly abstract, terms loosely defined and esoteric
Close to empirical observation	Removed from empirical observation
Avoids theory and derives laws from data	Develops complicated theory and fits data into theory

Our theories of personality need a vocabulary to both describe and organize what we see. Different theorists have invented different terms to describe their beliefs and observations, and

these are often not interchangeable among theories. Learning how to use the tools of a discipline requires learning its vocabulary.

Realism Versus Idealism

Theories can also be assessed with respect to their reflection of realism versus idealism. **Realism** refers to the position that the world of perception and cognition has a fixed and stable existence independent of the perceiver. **Idealism** refers to the belief that there is no external reality apart from the perceiver. Humans, the idealists insist, view the world through their unique and limited perceptions and senses. Reality is created between observer and subject. This can be illustrated by considering the meaning of a word as it relates to concepts we already understand. For example, the meaning of a word such as *friendship* depends on a range of personal experiences, including interactions with people, participation in activities, and feelings of loneliness or of kinship. In their search for meaning and understanding, personality theorists look for relationships that exist among complex sets of data.

Objective Versus Subjective

Theories also vary with respect to their objectivity and subjectivity. **Objective theories** are thought to be independent of the theorist and may be understood in the same way by anyone. **Subjective theories**, on the other hand, imply that our abstractions and constructs are unique and cannot easily be generalized. Importantly, the methods of scientific investigation can be greatly affected by this distinction, and each results in very different assumptions about what can be studied. Two concepts relevant to notions of objectivity and subjectivity are expressed by the terms, **nomothetic** and **idiographic**. Nomothetic study is the study of groups to arrive at general laws or traits applicable to groups of individuals. Idiographic study is the study of individuals in a way that emphasizes their uniqueness.

Introspection Versus Extrospection

The basic orientation of the observer is also important in the development of personality theory. Theorists who assume an **introspective** stance formulate theory from their own personal points of view. They observe and examine their own mental and emotional states and processes and generalize from these. This approach was especially common in the formative years of the field, as individuals such as Sigmund Freud and William James often engaged in introspection to generate hypotheses. When theorists take an **extrospective** perspective, they assume a detached and neutral position, basing their theories on observations of the behaviors and thoughts of others. With the development of highly objective scientific approaches in the second half of the 20th century, academic psychologists have generally rejected the use of introspection.

Formal Versus Informal

Formal theory is stated as clearly and objectively as possible and is expressed so as to maximize consistency and interdependence. Formal theory can be expressed as fundamental ideas and the axioms that logically flow from them (not unlike the theories commonly seen in the natural sciences). Thus, highly formal theories tend to be more specific and narrower than less formal theories. In contrast, **informal theory** is less explicitly stated, often lacks clear and concise operational definitions, is not (or is less) fully unified, and is therefore more difficult to test directly. Informal theory does not lend itself to what we have referred to as strong inference—that is, theories that allow for direct refutation through experimentation.

These various features of any theory may be helpful to evaluating the usefulness of a theory and for comparing different theoretical perspectives (e.g., Rychlak, 1968). In the end, however, there is no correct or incorrect way in which personality theory must be constructed. Different theories may serve very different purposes. For example, behavior theories are often better suited at predicting behavior than is psychodynamic theory. Thus, disorders that are largely defined by problematic behavior, such as simple phobias, are better explained by behavior theory—and behavioral approaches are also better suited to changing that behavior (e.g., systematic desensitization is a behaviorally-based intervention that tends to have reasonably good efficacy for treating phobias). In contrast, psychoanalytic approaches may be better suited for clinicians who are attempting to understand complex psychiatric disorders that involve more than just behavior (e.g., disordered thinking and affect), and where the patient has little insight into the nature and etiology of their problematic functioning (e.g., an endogenous form of depression).

Testing the Theoretical Components

Before a theory is accepted, it needs to be subjected to scientific inquiry and to systematic review by the community of scholars. If the principles of the theory are not validated, the theory will eventually fall out of favor. In a sense, this is a process of scientific evolution. Theories that are useful continue to spawn new research; they survive because they make specific predictions and the research fails to disprove them. Thus, they survive to see another day, and in this manner, one can say that they are “selected.” Many theories don’t fare well in this “survival of the fittest” game. They lose their credibility over time and fade away. Some fail because of limitations specific to the era in which they were developed—limitations such as those related to inadequate measurement capabilities and flawed methodologies. This is what happened to the theory of phrenology, the belief that personality traits can be assessed by studying the contours of an individual’s head. This belief seemed to make sense at the time, but its propositions were not supported and phrenology became an extinct theory of personality.

Still, many early—and apparently extinct—theories contained an element of truth, and this aspect of the theories is sometimes apparent in current theories. For example, although the basic proposition of phrenology was faulty, its emphasis on quantification and localization of functioning were important advancements that are reflected in current theories.

Convergence of Theories: Eclecticism, Integration, and Unification

There are many theories of personality. A number of individuals throughout the past century have recognized the need for integration across disciplines. But it was not until the last quarter of the 20th century that the movement really began to emerge as a major force in many disciplines. The reason for this delay may have been the need to wait for sufficient empirical evidence and theory building to accrue. After all, psychology is barely more than 100 years old.

James and Murray: Early Calls for Integration

William James (1890), who was in part responsible for the birth of psychology as an independent scientific discipline, was one of the earliest proponents of integrating psychological theories. Unlike many of his contemporaries, he thought there would be value in integrating different ideas

even if it meant that resulting theories would not always stay close to the data. According to Allport (1968), “More than any other psychologist James agonized over problems of systematic eclecticism” (p. 16).

Another prominent figure in personology was Henry Murray (1959) who systematically attempted to provide empirical support for a highly integrative theory of personality. As ambitious as this effort was, it lacked important aspects of the component systems discovered later that would have afforded him the opportunity to succeed in this daunting task. Without today’s computer technology and statistical methods, he collected much more data from those he interviewed and tested than he could possibly analyze. Although many of his concepts did not achieve an enduring place in psychology, his ambitious attempt to develop a comprehensive integration of personality theory continues to inspire many researchers, such as Silvan Tomkins, who is widely known for his theory of affect (Tomkins, 1962, 1963, 1991).

Later, another important figure in psychology, Gordon Allport, also called for integration.

Allport’s Call for Systematic Eclecticism

Gordon Allport (1968) was among the early proponents of what he called systematic eclecticism.

Allport’s uses the term *eclectic* to refer to a systematic attempt to bring together—that is, to integrate—various ideas to arrive at better explanations. He describes eclecticism as “a system that seeks the solution of fundamental problems by selecting and uniting what it regards as true in the specialized approaches to psychological sciences” (pp. 5–6). He believed that it was not possible to synthesize all plausible theories, but that trying to do so was a challenge psychologists should accept.

Eclecticism was not a concept invented by Allport; it had been used by a variety of philosophers in their search for *truth* (Janet, 1885). He revived the concept because of what he described as a lack of synthesis in psychology. “The situation at present,” he writes, “is that each theorist typically occupies himself with one parameter of human nature, and builds himself a limited model to fit his special data and personal style. Those who concern themselves with either the brain or phenomenology may be said to focus on one important parameter (body-mind); depth psychologists on the conscious-unconscious parameter; trait theorists on the stability-variability parameter; others on self and non-self. Trouble arises when an investigator maintains that his preferred parameter, or his chosen model, overspreads the whole of human personality” (Allport, 1968, p. 10).

What the social sciences need, explained Allport (1968), is theoretical assimilation, “the absorption of great ideas into the stream of intellectual history” (p. 14). Among the “great ideas” he identifies are those of Darwin, Galton, Pavlov, Freud, and the general systems theory.

Allport thought general systems theory offered great promise: “properly employed the basic principle of *open system* is, I believe, the most fruitful approach to systematic eclecticism” (p. 17). An “open system,” as opposed to a “closed system,” is one where outcomes of the functioning of the system are never entirely predictable. That clearly seems to be the case with respect to human personality. “Personality is the most eclectic concept in psychology, and an open system view the most eclectic interpretation of this concept” (Allport, 1968, p. 22).

Allport (1968) realized that systems theory was critical, but he did not expand his frame of reference to take into account all that happens outside the brain. He was concerned about reductionism and reminded us that a model is an analogue: Like a picture; it is not the entity itself. He uses an Indian proverb about blind men attempting to describe an elephant as an example of myopic theorizing:

One finds its tail very like a rope; another his hoof like a pillar; to a third the ear is like a saddle. But none is able to characterize the elephant. Similarly, modelists who say man is very like a machine, a pigeon, a mathematical theorem, mistake the part for the whole, and sometimes even mistake the simulata for the thing simulated. Systematic eclecticism works less with models than with theories. And its eventual aim is a comprehensive metatheory of the nature of man. (p. 11)

The integrative movement, like other movements in psychology, has multiple tributaries that feed it. One major contributor to the development of integration was a new spirit of collaboration among innovators searching for more effective models to guide psychotherapy.

The Influence of the Integrative Psychotherapy Movement

As Norcross and Newman (1992) note, “Rivalry among various theoretical orientations has a long and undistinguished history in psychotherapy, dating back to Freud” (p. 3). And rivalry among personality theories has been no less apparent. In both of these fields, the concept of theoretical integration was not new, but no serious formal attempts at synthesizing competing positions occurred until the late 1970s (Arkowitz, 1992). In the 1980s, there was a “geometric increase” in this movement with more than 200 publications during this decade devoted to psychotherapy integration (Goldfried & Newman, 1992). This explosion of publications on theoretical integration in the 1980s marked the end of an era of parochialism and ushered in a new era of interdisciplinary collaboration (Arkowitz & Messer, 1984; Goldfried, 1982; Marmor & Woods, 1980; Norcross & Newman, 1992; Wachtel, 1987).

This interest culminated in the formation of The Society for the Exploration of Psychotherapy Integration in 1983. The importance of this movement toward integration was summarized by Arkowitz (1992): “By expanding our scope beyond theories of psychotherapy and by looking toward areas of theory and research in other areas of psychology (e.g., cognitive sciences, social psychology, health psychology and psychobiology), psychotherapy integration promises to bring psychotherapy back to the field of psychology from which it has become somewhat isolated” (p. 293).

Assimilation and Integration

There are basically two ways a theory can coalesce: theoretical assimilation and theoretical integration. Assimilation, as we saw in the earlier section on Allport, occurs when features of other systems are unwittingly absorbed into a model. This is often an ongoing, unconscious process where aspects of various theoretical models are absorbed and added to a new synthesis (Messer, 1992). For example, aspects of evolutionary theory have been assimilated into sociobiology as well as into various personality theories.

The integration of theoretical models is a more active process. It typically involves deliberate and conscious attempts to blend constructs of one model with those of another to create a more useful synthesis. This is similar to Allport’s concept of systematic eclecticism.

1.4 The Scientific Method

The **scientific method** is a systematic approach to inquiry that uses careful observation and a formal process of gathering objective data. The scientific method is essential to theory building. This section discusses its applications.

Research Methods

Science within the field of personality psychology unfolds much like science in any other discipline or subdiscipline. The term *science* refers to the accumulation of knowledge, and knowledge is accumulated using a variety of methods in psychology. These techniques have various strengths and weaknesses and have developed over the years as the field has matured. For example, early in the history of psychology, information was largely accumulated by the methods of introspection (i.e., self-examination) and **case study** (the intensive examination of a small number of clinical cases). These approaches provided a wealth of information, but they were less structured and standardized, and the information was gathered from a limited number of individuals. Although case studies are still sometimes used to advance knowledge, the method of introspection has generally fallen out of favor, despite its early utility in the field.

The **survey approach** eventually became the workhorse of the field, as surveys could be easily employed and were an optimal way of conveniently gathering information from a diverse population. Surveys were also collected **longitudinally** in order to allow for a consideration of changes in scores over time, and this approach has become increasingly popular, as powerful statistical tools have been developed to examine the data.

Researchers have also adopted advanced **statistical methods** for the study of personality, including meta-analysis, multivariate analysis, and perhaps most germane to the study of personality, factor analysis. Factor analysis is a statistical technique used to organize and reduce data that has emerged as a method of developing theoretical models from the empirical analysis of descriptive language (also referred to as the lexical study of personality). This approach first became prominent with the work of Raymond Cattell, but as advanced statistical software emerged, its practice has proliferated (see also the advent of confirmatory factor analysis, in addition to exploratory factor analysis) and resulted in the identification of multifactorial models of personality (e.g., Costa & McCrae, 1985; McCrae & Costa, 1992). Even though this method provides a more data-driven, rather than theory-driven, approach to the study of personality, it still fails to provide us with the opportunity to draw causal conclusions (More on statistics and the trait perspective in Chapter 8).

The pinnacle of the research model is the **experiment**, in which the researcher manipulates one or more variables of interest and exposure to the manipulated variables is done through random assignment. It is the experimental method that has established personality psychology as a field with a truly scientific model of study. See Table 1.4 for a description of each method and some of the corresponding advantages and disadvantages.

Table 1.4: Overview of six basic methods used in psychological research

Method	Advantages	Disadvantages
Introspection	• Extensive detail • Access to a great deal of info • Subject is always available	• Less standardized and structured • Investigator and subject share the same biases • Least representative data • Data drawn from one individual
Case study	• Extensive detail • Access to a great deal of info • Investigator and subject are different individuals	• Less standardized and structured • Not optimally representative data • Data drawn from a small number of individuals
Survey	• Data collection can still be broad • Very large and representative samples	• More limited amount of information • Less is known about the response tendencies of the subjects (e.g., honesty in responding)
Longitudinal survey	• Provides the same advantages as the survey, along with the opportunity to establish a temporal line (i.e., establish if one construct precedes another)	• Similar disadvantages as the survey method
Statistical methods (i.e., exploratory and confirmatory factor analysis)	• Not as tied to any theoretical model • Data driven • Can contrast theory with data to critique the accuracy of some theories	• Still requires some basic assumptions for testing • Analyses are limited by the problems with the constructs that are being assessed
Experiment	• Minimizes the influence of any unmeasured variables due to random assignment • The only method that allows for causal conclusions	• Tight experimental control can have a trade-off with how well the findings generalize outside the lab

Modern-day personality psychologists rely primarily on the survey and experimental methods. It is with these more modern scientific methods that researchers can advance the field by predicting outcomes and exercising experimental control over phenomena. The abilities of researchers to predict something before it occurs, control each variable of interest, and manipulate outcomes by altering a variable of interest—these are the best indicators that we understand something well. In Chapter 2, we will apply these criteria to psychodynamic theory and, after operationally defining the unconscious, test whether there is evidence of its existence, its influence on our behavior, and its ability to do so outside of our awareness.

Of course, one natural limitation in the field of personality psychology is that personality, *per se*, is not something that can be manipulated with random assignment. Thus, sometimes researchers must focus on related constructs (concepts) that are more directly accessible to help advance the field. As an illustration, consider the personality trait of *perceived control*. Early work focused on its operational definition (e.g., in the 1950s, Julian Rotter introduced the concept of locus of control), and over the span of many years, researchers developed a theory to better understand control perceptions and how they work (e.g., see self-efficacy theory, Bandura, 1977; the theory of planned behavior, Ajzen, 1985, etc.). After several researchers developed measures of control (e.g., Paulhus, 1983; Paulhus & Van Selst, 1990; Rotter, 1966), survey research established a consistent and reasonably strong association between control perceptions and a number of outcomes. For example, higher perceived control is associated with better psychological well-being (Hortop, Wrosch, & Gagné, 2013; Peterson & Seligman, 1984; Stupnisky, Perry, Renaud, & Hladkyj, 2013) and better physical health (e.g., Infurna & Gerstorf, 2012; Thompson & Spacapan, 1991). Researchers have also manipulated perceived control and demonstrated that it can *cause* changes in health-related behavior (Lecci & Cohen, 2007) and improve how we respond to stress (e.g., Glass & Singer, 1972). The entire body of research gives us a better understanding of the phenomenon and even allows for some causal conclusions.

Peer Review

The scientific method requires that findings be subjected to peer review and that the specific steps that led to the conclusions be made public so that other investigators can confirm the findings. Peer review often involves “blind review,” where research is examined by independent reviewers who have no connection with the researchers. The reviewers are experts in the content area as well as experts in the scientific method. Ideally, the review process improves the quality of published research by critiquing it (i.e., identifying the strengths and weaknesses of any submitted manuscript), which in turn culls poorer research and strengthens the studies that do get published. The goal is to seek out a consensus among the reviewers for the most relevant issues to critique, although the level of agreement among reviews varies, and other factors may also influence the critique (e.g., Petty, Fleming, & Fabrigar, 1999).

Based on the collective merits of the research and the critique, the journal editor decides whether to reject the manuscript, encourage a revision, or accept it outright. The most common outcome is a “revise and resubmit,” in which the authors are provided the critiques of multiple reviewers and must then respond to the critiques with counterarguments, additional data, or analyses that address the critiques. The journal editor, along with additional reviewers, will determine whether the authors have succeeded in addressing the concerns raised in the critiques. Such scrutiny by one’s peers in the field further bolsters the legitimacy of psychological findings, as the review process is rigorous and aimed at expanding our knowledge and better understanding phenomena.

Although books can offer rich and useful information, publications in primary research journals are generally considered the venue for cutting-edge science. In psychology, and specifically personality psychology, there are a number of well-respected journals that involve rigorous peer review, and only a small handful of studies (e.g., typically less than 20% of those submitted) actually succeed in being published. Some journals in which you will find interesting research specific to the area of personality include the *Journal of Personality and Social Psychology*, *Personality and Social Psychology Bulletin*, the *Journal of Personality*, the *Journal of Research in Personality*, and *Personality and Individual Differences*, to name a few.

1.5 Measuring and Assessing

P psychological measurement, broadly referred to as **psychometrics**, is an essential part of the scientific study of personality. Psychometrics involves both the construction of instruments and procedures used in measurement and the development of measurement theory. As with any scientific discipline, measurement—and the accuracy of that measurement—undergirds the effectiveness of how science is to be carried out in the field of personality psychology. Assessment implies that there is an actual construct to be assessed and that it can be quantified and assessed with reasonable accuracy. There are several important technical terms used to assess the quality of any assessment tool, and some of the key terms, such as *standard error of measure* and the various forms of *reliability* and *validity*, will be defined.

Standard Error of Measure

All assessment tools have error, but not all tools of assessment have equal amounts of error. Therefore, it is important to evaluate the efficacy of any and all assessment tools employed by quantifying their error. The term used to represent the error associated with any form of assessment is the **standard error of measure (SEM)**.

The SEM is defined as the standard deviation of the sampling distribution. Imagine that we are trying to measure your level of extraversion using an instrument called the E-scale, which yields a score between 0 and 50, with higher scores denoting greater extraversion. Each time we administer this test to you, it results in a score, but not every one of your scores is identical. If we were to repeat this process, a number of estimates of your level of extraversion would emerge (each represented by a score). Once we had sampled your extraversion score a very large number of times (theoretically, an infinite number of times), we could then plot all of the scores, calculate a mean of all the scores, and find the standard deviation of the distribution of scores. The latter value (the standard deviation of all the score estimates) is the standard error of measure, and smaller values indicate less error (in this case, less variability in the estimates of your extraversion). If an instrument is well constructed, and the construct being assessed is reasonably stable (something that is assumed to be true for personality), then the SEM should be relatively small. The SEM also provides some important information about the reliability of the measure.

Reliability

Conceptually speaking, the construct of reliability is essentially synonymous with *consistency*. So when someone is discussing the reliability of a measure, they are talking about the extent to which it produces consistent scores. Reliability can be maximized through **standardization**—that is, by ensuring that the measure is administered, scored, and interpreted in the same way every time. This even applies to survey measures, with standardization referring to, for example, whether the items are written in such a way that they will be interpreted in the same way by different individuals.

Reliability figures (referred to as *reliability coefficients*) can range from zero, indicating no reliability, to 1.0, indicating perfect reliability. Typically, a reliability value of at least 0.70 is needed for the measure to be considered reliable enough to use. There are several different types of reliability, and we will here define four common types that are useful when evaluating a measure and the research that uses it.

- **Test-retest reliability** refers to how consistently a measure produces the same score for the same individual over time. To calculate this value, a test or scale is administered and

then, after a predetermined period of time (for measures of personality, the interval between administrations is usually anywhere from 30 days to one year), it is administered again and the two scores are compared. Given that personality is a construct that is in theory supposed to be stable, the inter-rater reliability can be used to provide some validation that it is, in fact, stable. In fact, this form of reliability can be used to differentiate between constructs like mood states (which will have lower test-retest reliability) and traits.

- **Internal reliability** refers to the extent to which half of the randomly selected items on a test relate to the remaining half of the items. Assuming the scale measures only one construct, then the internal reliability should be reasonably high if it is a good instrument. One of the more widely accepted ways of assessing the internal reliability of an instrument is by taking every possible split-half reliability (all possible combinations of half the items on a measure) and calculating the average of these values. This is also known as the **Cronbach's alpha** of the instrument. In general, as a measure adds items (assuming the items are of equal quality), the measure will increase its internal reliability. Increasingly, researchers have turned to other statistical tools, such as factor analysis, to not only provide information on a measure's internal reliability, but also its construct validity (see next section).
- **Parallel (or alternate) forms reliability** is used when researchers have two different versions of the same test, and the goal is to make the two versions as similar as possible. Typically, researchers will generate a large pool of items, divide them at random into two versions, and assess the target population. If the parallel forms reliability is high, then both forms should yield similar scores. Parallel forms reliability is important if you have to evaluate someone twice and you want to avoid giving them the same test twice. Parallel forms reliability is similar to the above-mentioned split-half reliability, except that for parallel forms, you are planning to use the two forms as independent measures.
- **Inter-rater reliability** refers to the agreement between raters whenever a measurement requires people to score it. This value is especially important the more subjective the scoring of the measure is. For example, later in the text, we will report on studies that involve rating the behaviors of children as they explore a room. It is reasonable to question whether different individuals (raters) would rate those behaviors in the same way, and the inter-rater reliability figure provides a way to quantify the rate of agreement.

Validity

Validity is a complex term because it can have many meanings. However, in all cases, the basic definition refers to the extent to which reality is captured by a measure, an experiment, or even a clinical trial. Validity is also related to the type of data that is collected to help give meaning to test scores. That is, any test score is essentially meaningless unless there is a standard of comparison to interpret the scores. For example, when you obtain a score of 50 on a trait measure of neuroticism, the interpretation of that score depends on how others have scored on the same measure. Tests, therefore, usually have extensive norms: a database of how other individuals have scored, sometimes separated by gender, age, or other relevant demographics. For neuroticism, there are some differences for males as opposed to females, so the scores may be **norm-referenced** by gender (i.e., males compare their scores to other males, whereas females compare their scores to other females). All tests are either norm-referenced tests, **criterion-referenced** tests (for which an individual's score is compared to a specific score that has some relation to standards or criteria—often a cutoff score), or **ipsative** tests, for which a score is compared to the same individual's performance on the measure under other circumstances or at a different point in time.

Validity is also related to the previous psychometric concepts introduced in this chapter, as a measure cannot be valid unless it is first shown to be reliable. That is, reliability is a necessary, but not sufficient, condition to achieve validity. We will here define some of the most common forms of validity.

Construct validity refers to the extent to which a measure captures what it purports to measure. This is the most central form of validity, and it is typically established by both theory and empirical evidence. There are several ways to determine if a measure assesses what it is supposed to measure, and these too are forms of validity. That is, construct validity is achieved by demonstrating criterion, convergent, and discriminant validity.

- **Criterion validity** refers to a measure's ability to predict a related outcome that is measured at some future point in time. For example, a measure of child aggression might be shown to predict aggressive behavior as an adult, thereby demonstrating criterion validity.
- **Convergent validity** is the extent to which a score on one measure converges with a score on a conceptually related measure. Thus, when similar constructs converge, it is said that convergent validity is achieved.
- **Discriminant validity** refers to when a score on one measure diverges from a score on a conceptually distinct measure. That is, measures that are supposed to be assessing different things do, in fact, show divergence.

As noted, there are other forms of reliability and validity, but for the purpose of this text, these represent some of the more common psychometric terms needed to evaluate the quality of an assessment tool, and these concepts can also be used when evaluating some of the research that the following chapters present.

Beyond the Text: Classic Writings

For additional discussion and overview of the concept of validity, please see this classic paper by Cronbach and Meehl, published in 1955 in *Psychological Bulletin*. Read it at <http://psychclassics.yorku.ca/Cronbach/construct.htm>.

Reference: Cronbach, L. J., & Meehl, P. E. (1955). Construct validity in psychological tests. *Psychological Bulletin*, 52, 281–302.

Ethics and Cultural Bias in Psychometrics

Testing must always be conducted in an ethical manner, and this is especially critical because the results of personality assessments can have important consequences for individuals. For example, someone who is inappropriately diagnosed with a psychopathic personality disorder might be denied parole because of a perceived potential danger to society. Scores on tests like the MMPI®-2 have been used to determine custody or influence whether a patient is released from an inpatient psychiatric facility.

Sue and Sue (2008) have raised objections to the use of testing and the classification that often results from testing. They suggest that it is a dangerous practice when psychometric instruments that favor white, Euro-American, middle-class persons—and thus are biased against minorities—are used to measure personality and intelligence. We need to keep in mind that definitions of *health* are often based on dominant cultural values and attitudes. How we define what is “normal” or “pathological” or even what is relevant to these definitions is influenced



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It is important to be aware of the potential bias of assessments that were developed and validated based on a majority group but are administered or used to make decisions regarding a minority group.

by culture, religion, and ethnic factors (Draguns, 2009; Hogan & Bond, 2009). Sue and Sue (2008) suggest that when tests that have been developed for the majority group are used for the pathological labeling and hospitalization of minority group members, this can be interpreted as a form of political control. This practice has been labeled **ethnocentric monoculturism**, a phenomenon they view as dysfunctional in a pluralistic society (see Sue & Sue, 2008). We must be especially cautious when using tests that were developed, validated, and normed on majority group members and making decisions for minorities or those of other cultures (see Gould, 1996, and for a more recent discussion, see Ossorio, 2011).

The American Psychological Association's (APA) Ethical Principles of Psychologists and Code of Conduct is intended to guide psychologists in all aspects of their work, including, but not limited to, testing. These ethical principles cover such issues as:

- **Test competence:** The individual administering and interpreting the test should be properly trained and supervised in the use of that test.
- **Privacy and confidentiality:** The psychologist's need to take reasonable precautions in protecting confidential information. This also applies to the storage of test data in any medium.
- **Informed consent:** The person being tested has knowledge of what is involved in the testing, how the test results might be used, and that they voluntarily agree to testing without being coerced. This issue is more complex when testing minors or those who might not be legally competent to give consent.

The APA Ethics Code only applies to a psychologist's activities that relate to scientific, educational, or professional roles. Misuse of psychological tests by psychologists continues to be a problem, though most of the violations involve issues of competence (i.e., that the professional improperly used the test; see McIntire & Miller, 2007 for a more extensive discussion).

For complete coverage of the ethical issues on testing, as well as the ethics for therapy and research, the American Psychological Association has made its guidelines available to the general public. See <http://www.apa.org/ethics/code/index.aspx>.

Personality and Culture

Theoreticians and researchers have increasingly recognized the fact that the study of psychology has largely been limited to a culturally and ethnically limited perspective (e.g., Cheung, 2012). In keeping with this conclusion, the American Psychological Association (2003) published guidelines to promote multiculturalism and the globalization of psychological research, practice, and training. Nevertheless, the conclusion continues to be that the scientists and the subjects they

study are typically drawn from Western, industrialized, and democratic nations, and individually they are educated, wealthy, and usually white (e.g., Guthrie, 2004; Henrich, Heine, & Norenzayan, 2010; Jones, 2010). As a result, it is questionable whether basic psychological research adequately captures the diversity of human psychological functioning. As an example, consider the very concept of personality psychology, which is, in essence, the emphasis of individual differences. Many cultures minimize such differences and instead emphasize the study of groups. Thus, even the process of imposing from a Western industrialized perspective what is relevant to be studied reflects a significant bias.

Although the issue of culture will be addressed to some degree in Chapters 4 and 8, where researchers attempt to determine what can be attributed to genetic influences and what can be attributed to other factors, it is important to understand that culture, ethnicity, and race are relevant to all areas of personality psychology.

Tools of Assessment

There are two main groups of psychometric instruments: those that were developed for and are primarily used to measure personality in the clinical population and those developed and used to assess personality in the nonclinical population. Because of the greater need for assessment in answering clinical questions, the vast majority of the personality measures were developed for use in this setting. For example, the Minnesota Multiphasic Personality Inventory[®]-2 (MMPI[®]-2), the Millon[™] Clinical Multiaxial Inventory-III (MCMI-III[™]), and the Personality Assessment Inventory[™] (PAI[®]) are some of the more commonly employed objective measures in clinical settings. In contrast, the NEO[™] Personality Inventory-3 (NEO[™]-PI-3) and the **Myers Briggs Type Indicator[®]** (MBTI[®]) are some of the more commonly used measures in the nonclinical settings. Thus, many instruments have been specifically validated to function in just one population.

One of the primary differences between measures developed for clinical and nonclinical settings is the extent to which the assessment is direct in its approach. Burisch (1984) suggests that a measure should adopt the most straightforward and unambiguous method of assessment (i.e., simple, obvious questions) provided that the researcher can assume that the respondent: (a) understands the construct being assessed, (b) has no reason to misrepresent the truth, and (c) demonstrates sufficient psychological insight to respond. Obviously, in clinical settings, at least one of these assumptions is likely to not hold true, and therefore more indirect methods are typically employed.

In this section, some of the different measures used in personality psychology will be introduced. More detail for each measure will be presented in the chapters reflecting their theoretical origins.

Structured Interviews

Structured interviews consist of predetermined questions that are put to the subject by an interviewer, with the end result being a diagnostic tool that matches the DSM's nosological structure. Some structured interviews are designed to assess a wide range of personality traits; others focus on a specific type of personality disorder. Structured interviews are often pathology-based assessment instruments used in research. One commonly used instrument developed by First, Spitzer, Gibbon, & Williams (1996) is the Structured Clinical Interview (SCID-I) that was aligned with the Axis I clinical disorders of the version of the DSM at that time (the DSM-IV). This semi-structured interview is designed specifically to be administered by clinicians or trained mental health professionals (see also Ventura, Liberman, Green, Shaner, & Mintz, 1998). The SCID-II was developed to

assess the Axis II personality disorders from the DSM-IV. It contains a standardized interview for those 11 personality disorders along with a questionnaire format that can be used by clinicians to guide a shortened clinical interview (First, Gibbon, Spitzer, Williams, & Benjamin, 1997). Further updates to the SCID are under way to match the recently published DSM-5, which no longer divides disorders in terms of Axes (see Chapter 10 for more information). The widespread use and acceptance of the SCID family of tests is indicated by the fact that it has been translated into many different languages, and numerous empirical studies have demonstrated its validity.

Self-Report Inventories and Objective Tests

Objective tests are standardized instruments that may be self-administered, but are often administered by a clinician or researcher. Most consist of many scales that are derived through empirical research. These instruments are often computer scored because of the complexity of hand scoring. The oldest and best known of them is the widely used **Minnesota Multiphasic Personality Inventory®-2 (MMPI®-2)**, which has been extensively validated. The MMPI®-2 has resulted in over 2,800 published journal articles, book chapters, and textbooks, making it one of the most extensively studied tools of assessment (e.g., Graham, 2006). It is also used in a wide range of clinical, personnel, and forensic settings. It went through a major revision in 1989, and the revised version (MMPI®-2) is a 567-item, true/false test (Butcher, Dahlstrom, Graham, Tellegen, & Kaemmer, 1989) that is used with adults. The MMPI®-A is an alternate version that is used for adolescents between the ages of 14 and 18. More recently, the MMPI®-2 Restructured Clinical (RC) scales were developed (Tellegen, Ben-Porath, McNulty, Arbisi, Graham, & Kaemmer, 2003), and this was the centerpiece of the MMPI®-2 RF (Restructured Form; see Ben-Porath, 2012). These latest MMPI®-2 scales were changed to improve the psychometrics of the tests and address the high degree of overlap among the original scales.

The widespread use of the MMPI®-2 is due, in large part, to the extensive research conducted on this instrument, including research to illustrate “fake good” and “fake bad” profiles, and scales to assess such constructs as defensiveness, superlative responding, inconsistent responding, and the endorsement of odd/unusual items, reflecting both rare items in the nonclinical population and rare items even among psychiatric patients. In fact, much research on the original and revised MMPI® has focused on the identification of those who intentionally manifest symptoms for some external gain (known as **malinger**ing).

A similar instrument is the **Millon™ Clinical Multiaxial Inventory-III (MCMI-III™)**, which has been through a number of revisions since its inception (Millon, 1977). The current version of this instrument, the MCMI-III™, which consists of 175 true/false questions, was developed to measure personality disorder and psychopathology based on Millon’s evolutionary framework of personality. The MCMI-III™ also has some measures of validity (e.g., defensiveness), though these are less extensive than the MMPI®-2. The one significant advantage of this instrument is that it was designed to yield diagnostic conclusions that closely match the nosological structure of the diagnostic tool used in the United States. This was the *Diagnostic and Statistical Manual of Psychiatric Disorders IV* (DSM-IV), and it has now become the fifth version, the DSM-5. MCMI™ revisions are pending that will closely parallel changes occurring in the DSM-5.

The **Personality Assessment Inventory™ (PAI®)** is a 344-item measure that includes 22 scales focusing on psychiatric disorders and several validity indexes (Morey, 2007). The PAI® has 11 clinical scales that are grouped within the neurotic and psychotic spectrum, scales to assess behavioral disorders and problems of impulse control, and other scales to assess complications and motivation for treatment, harm potential, interpersonal relations, and personality disorder traits.

The PAI® has normative data from patients, students, and the population at large, and reliability and validity figures are adequate for both clinical and nonclinical settings. Recent studies have attempted to validate the PAI® for use in various settings, including forensic populations (e.g., Newberry & Shuker, 2012) and neuropsychological settings (Aikman & Souheaver, 2008).

There are many other objective instruments developed for measuring normal and abnormal personality. Currently, the best known and widely used in the nonclinical population is the **NEO™ Personality Inventory-3 (NEO™-PI-3)**, originally developed by Costa and McCrae (1985). It is based on the five-factor model of personality (see Chapter 8). The NEO™-PI-3 and the shorter form, the NEO™-FFI (Costa & McCrae, 1989), both measure the five factors of personality in normal adults: Neuroticism (N), Extraversion (E), Openness to Experience (O), Agreeableness (A), and Conscientiousness (C). Another instrument that has been widely used is the Myers Briggs Type Indicator® (MBTI®). Even though it assesses the personality constructs of introversion and extraversion, this instrument is more widely used in the field of industrial-organization psychology, as its primary application has been to predict behavior in work settings involving teams.

Projective Tests

These instruments are based on the assumption that people perceive the world from their own, idiosyncratic point of view (Weiner & Greene, 2008). The basic assumption is that if you show individuals an ambiguous stimulus, they *project* unconscious wishes, fears, and thoughts into their description of the stimulus (see Chapter 2 for an expanded definition of the defense mechanism of projection). These descriptions can then be analyzed to discover common themes that might reveal something of the unconscious mind. By far the most popular of these instruments is the **Rorschach Inkblot Method** developed by Hermann Rorschach (1921/1942), a Swiss psychiatrist. Indeed, the Rorschach is consistently among the most frequently used personality test in inpatient psychiatric settings and second only to the MMPI®-2 (e.g., Camara, Nathan, & Punete, 2000; Lubin, Larsen, Matarazzo, & Seever, 1985).

The Rorschach consists of 10 inkblots on cards. They are primarily shades of gray and black, with some of the cards including color. Subjects are asked to tell the examiner what the card brings to mind (i.e., what they see in each card). Responses are recorded verbatim. Subjects are also asked to provide more detail to their responses by, for example, explaining what they perceived and why. Subjects' responses are analyzed on a number of variables, although in the earliest scoring methods, the content of the responses was emphasized.



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One controversy regarding the Rorschach inkblot test is that, often, the test is administered and scored in varying ways, which calls into question its validity.

Despite its popularity in psychiatric hospitals, there has been and continues to be considerable controversy over its use (Goode, 2001; Lanyon & Goodstein, 1997). The most obvious controversy is that its use requires that one accept at least some assumptions of psychodynamic theory (described in more detail in Chapter 2). Another problem is that after Herman Rorschach

developed the test, several different administration and scoring methods were developed, resulting in a test that, while each carried the same name, had many different versions. For example, different administrations did not always involve all 10 cards, they did not always generate a minimum number of responses from the subjects, and the cards were not necessarily administered in the same order. The scoring also varied, especially when the analysis of the response content was the primary focus. Thus the Rorschach suffered from poor standardization, low reliability, and inadequate validity. However, in the mid 1980s, John Exner, as a follow-up to his doctoral dissertation, attempted to standardize the Rorschach by establishing some common standards, including always administering all 10 cards in the same order, using the same prompts to get initial responses and elaborations on those responses, using further queries to ensure a minimum number of responses from all subjects, and identifying a common set of scoring criteria. In Chapter 2 (Section 2.6, “Psychodynamic Methods of Assessment”), these criteria will be outlined in detail.

A second projective instrument still widely used in research and clinical practice is the **Thematic Apperception Test (TAT)**, developed by Murray and Morgan (1935). In fact, the TAT is also among the most commonly administered test in psychiatric settings (Camara et al., 2000; Lubin et al., 1985). The TAT involves a series of black-and-white pictures depicting ambiguous situations, many of which include people, and having the subject come up with a brief story that goes along with the picture. The scoring for this instrument typically involves identifying the main agent of action (e.g., the main character of the story) and assuming that the subject is projecting her- or himself into the story as the main agent of action. The scoring also involves identifying the primary needs of the main agent of action (e.g., need for affiliation, power, independence, etc.) and the press (e.g., any external contingences on the main character, including the demands placed on the main character by other individuals in the story). Although this scoring system is more structured than the original scoring methods for the Rorschach, it is less complex than Exner’s scoring system, and therefore the psychometric qualities of this test are less robust.

Another projective personality measure sometimes used for assessment and research is the **sentence completion** exercise, in which the subject is asked to finish a sentence stem with the first thing that comes to mind (e.g., “I LIKE _____”). These responses are then content analyzed for their meaning, and in the case of tests administered to children and adolescents, they are also interpreted for their developmental appropriateness. This and other similar projective measures (e.g., figure drawing tests, the Bender-Gestalt, etc.) are generally less psychometrically sound, and so they are less widely used today.

Rating Scales and Checklists

Rating scales and checklists may be administered by an examiner or, more typically, they can be self-administered. They generally consist of lists of items that the subject or examiner is asked to check if appropriate. If the measure is a rating scale, then the subject is asked to indicate the extent of their agreement to an item. For example, the options might include “I am always, often, sometimes, or never . . . afraid/careful/calm/etc.” Response formats for these types of measures often use Likert scales, in which the anchor points are labeled, but the rest of the scale is represented numerically. An illustration of this response format might be a series of items where the subject is asked to indicate the extent of their agreement using a 0 (meaning “completely disagree”) to 5 (meaning “completely agree”) scale.

One of the more widely used rating scales in research and applied settings is the **Psychopathy Checklist—Revised (PCL-R)**, which was developed by Hare (1991) to measure two factors (lack of empathy and erratic behavior) present in antisocial or psychopathic personalities. Another commonly used instrument is the **Positive Affect/Negative Affect Schedule (PANAS)** and

the expanded PANAS-X (Watson & Clark, 1994), which has a version that uses the prompt of how do you feel “in general” to assess the construct of personality.

The use of psychological instruments to determine personality types, characteristics, and disorders has been a major challenge and stimulus to the growth of both academic and professional psychology. Psychological testing is a huge business, with many companies offering a wide selection of instruments that can be used in many settings and for many purposes. Sophisticated computer programs, powerful personal computers, and advanced statistical methods allow researchers and clinicians to measure personality in efficient and cost-effective ways (e.g., using Internet-based administration and scoring), with results often available immediately. This was seldom the case when tests had to be hand-scored. These types of instruments are now widely used in many sectors of society, including assessing candidates for the police force, clergy, and military recruits. Personality testing is also widely used to inform child custody disputes and parental competency evaluations (see Lecci & Resendes, 2012), executive placement decisions, student assessments, personnel placement, and employee assistance programs.

Summary

This chapter introduced the concept of personality, the characteristics of personality theory, the methods of science, and the tools of assessment, including psychometric concepts. These represent the basic building blocks of the field, and once you understand these terms, you can evaluate new studies and advances, much as a scientist would do. However, this is not just the domain of science, as we all use personality theory in our everyday lives. Consciously or otherwise, we continually assess, rate, and categorize the people with whom we interact. Our assessments guide our beliefs, attitudes, and behavior. This is a normal and natural process.

Personality theorists attempt to organize their knowledge about people to arrive at a better understanding of our complexity. Theory represents a formal attempt to arrange observations in a coherent fashion that explains and allows prediction. One important way that the study of personality diverges from philosophy is in its emphasis on scientific theory building and the scientific method. Murray, who coined the term *personology*, attempted to establish personality as a credible discipline, reflecting interest in the study of human lives and individual differences.

It is important to differentiate between the key concepts of *trait* (a stable personality factor) and *state* (a fluctuating element of the personality system). The main elements of a psychological science of personality include a system of classification for the data, a set of propositions, a theory model, and a means by which to test the theory's integrity. We can also view the multiple factors that make up personality through various levels of abstraction. These factors range from biological underpinnings to cultural influences. Personality variables can be looked at microscopically or macroscopically, as can any complex biological and social system. Thus, at a microscopic level, we can focus on the action of neurons and their various neurotransmitters (see Chapter 4); at a macroscopic level, we can study the cultural impact of a phenomenon such as immigration.

As more interdisciplinary cross-fertilization has taken place, a strong trend toward convergence in personality theory has occurred. In addition, we have also seen an integrative-eclectic process in which elements from various theories have sometimes been unified. Various instruments used to measure normal and abnormal personality serve to unify related disciplines within psychology. The development of these psychometric instruments has been a major advancement in scientific psychology. Unfortunately, many current measures may be biased against minorities and may be

representative of ethnocentric monoculturism. Each of these challenges should be considered as we delve into the topics in each chapter of this book.

How do we address the complex issues raised at the beginning of this chapter? Can we know who is prone to aggress and act violently toward others? Can we change such behavior? Personality theory provides a lens through which we may attempt to make sense out of what we know about the functioning—and dysfunctioning—of individuals, dyads, families, and larger systems.

Key Terms

case study The intensive examination of an individual in a clinical situation or a small group of individual cases.

character Term used in common speech to describe basic, enduring traits, moral or ethical qualities; also used in early psychodynamic literature, where it has more recently been replaced by the term *personality*.

Cronbach's alpha A coefficient that provides a measure of internal reliability. Items are compared to each other to assess if they are measuring the same thing.

construct validity The extent to which a measure captures what it purports to measure. This is the most central form of validity, and it is typically established by both theory and empirical evidence—by demonstrating criterion, convergent, and discriminant validity.

convergent validity The extent to which a score on one measure converges with a score on a conceptually related measure.

criterion-referenced Tests for which an individual's score is compared to a specific score that has some relation to standards or criteria—often a cutoff score.

criterion validity A measure's ability to predict a related outcome that is measured at some future point in time.

discriminant validity The extent to which a score on one measure diverges from a score on a conceptually distinct measure, showing that the two measures do, in fact, measure distinct things.

ethnocentric monoculturism The over-valuing of one's own cultural practices and beliefs. This can also result in the pathological labeling and hospitalization of minority group members, which can be interpreted as a form of political control.

experiment The pinnacle of the research model, in which the researcher manipulates one or more variables of interest, and exposure to the manipulated variables is done through random assignment.

extrospective Methods in which theorists assume a detached and neutral position, basing their theories on observations of the behaviors and thoughts of others.

formal theory A theory that is stated as clearly and objectively as possible and is expressed so as to maximize consistency and interdependence.

idealism The belief that there is no external reality apart from the perceiver.

idiographic The study of individuals in a way that emphasizes their uniqueness.

informal theory A theory that is less explicitly stated, often lacks clear and concise operational definitions, is not (or is less) fully unified, and is therefore more difficult to test directly.

internal reliability The extent to which items on a measure are measuring the same thing. This is typically assessed by comparing half of the randomly selected items on a test relate to the remaining half of the items.

inter-rater reliability The agreement between raters whenever a measurement requires people to score it, especially when the scoring is more subjective.

introspective Methods in which theorists rely on their own personal points of view, observing and examining their own mental and emotional states and processes and generalize from these.

ipsative Tests for which a score is compared to the same individual's performance on the measure under other circumstances or at a different point in time.

longitudinally A way of collecting survey information that allows for evaluating the changes in scores over time.

malinger Those who intentionally manifest symptoms for some external gain.

Millon™ Clinical Multiaxial Inventory-III (MCMI-III™) An assessment that consists of 175 true/false questions; it was developed to measure personality disorders and psychopathology based on Millon's evolutionary framework of personality.

Minnesota Multiphasic Personality Inventory®-2 (MMPI®-2) A 567-item, true/false test that is used with adults to assess such constructs as defensiveness, superlative responding, inconsistent responding, and the endorsement of odd/unusual items.

mood states Refer to emotions that fluctuate over time and across situations.

Myers Briggs Type Indicator® (MBTI®) A personality assessment that studies the two attitudes (extraversion, introversion) and four functions (sensing, feeling, thinking, and intuiting).

NEO™ Personality Inventory-3 (NEO™-PI-3) An assessment originally developed by Costa and McCrae (1985), that is best known and widely used in the nonclinical population. Along with the shorter form, the NEO-FFI (Costa & McCrae, 1989), it measures the five factors of personality in normal adults: Neuroticism (N), Extraversion (E), Openness to Experience (O), Agreeableness (A), and Conscientiousness (C).

nomothetic The study of groups to arrive at general laws or traits applicable to groups of individuals.

norm-referenced Tests for which an individual's score is compared to others' scores (often people in their demographic group).

objective theories Theories that are independent of the theorist and may be understood in the same way by anyone.

observable data Data that are concrete and can be collected with minimal use of inference.

parallel (or alternate) forms reliability Used when one has two different versions of the same test, and the goal is to make the two versions as similar as possible. Typically, researchers will generate a large pool of items, divide them at random into two versions, and assess the target population.

personality Pattern of behavior, affect (emotional experience), and/or cognition (thoughts) that is typical of the individual, evidencing some degree of stability over time and across situations.

Personality Assessment Inventory™ (PAI®) A 344-item measure that includes 22 scales focusing on psychiatric disorders and several validity indexes. It has eleven clinical scales that are grouped within the neurotic and psychotic spectrum, scales to assess behavioral disorders and problems of impulse control, and other scales to assess complications and motivation for treatment, harm potential, interpersonal relations, and personality disorder traits.

personology An early term for the development of theoretical systems for explaining and understanding human behavior.

Positive Affect/Negative Affect Schedule (PANAS) A rating scale that assesses the construct of personality.

psychometrics Psychological measurement, involving both the construction of instruments and procedures used in measurement and the development of measurement theory.

Psychopathy Checklist—Revised (PCL-R) Rating scale developed by Hare (1991) to measure two factors (lack of empathy and erratic behavior) present in antisocial or psychopathic personalities.

realism The position that the world of perception and cognition has a fixed and stable existence independent of the perceiver.

Rorschach Inkblot Method Developed by Hermann Rorschach (1921/1942), a Swiss psychiatrist. One of the most frequently used personality tests in inpatient psychiatric settings; it consists of 10 inkblots on cards.

scientific method A systematic approach to inquiry that uses careful observation and a formal process of gathering objective data.

sentence completion An exercise in which the subject is asked to finish a sentence stem with the first thing that comes to mind (for example, "I LIKE ____").

standard error of measure (SEM) The standard deviation of the sampling distribution, which is a measurement of how much error occurs in a particular form of assessment.

standardization The process that maximizes reliability (the consistency of scores) that involves using the exact same procedure.

statistical methods Ways of compiling and processing data, including meta-analysis, multivariate analysis, and factor analysis.

structuralism Wilhelm Wundt's term for his theory that by understanding the "atoms" of conscious experience, he could understand the structure of the mind.

subjective theories Theories that imply that our abstractions and constructs are unique and cannot easily be generalized.

survey approach A way of conveniently gathering information from a diverse population.

temperament An individual's basic biological predispositions, which are thought to be present at birth.

test-retest reliability How consistently a measure produces the same score for the same individual over time.

Thematic Apperception Test (TAT) Developed by Murray and Morgan (1935), a commonly administered projective test that consists of a series of black-and-white pictures depicting ambiguous situations, many of which include people, and having the subject come up with a brief story that goes along with the picture.

theoretical models Sets of interrelated concepts that have attempted to explain how personality operates.

theory A system of ideas used to explain any phenomena.

traits Specific, stable features of personality, such as persistence, integrity, and honesty. Traits are units of analysis that are used to predict behavior.

