Past and Present Understandings of Mental Disorders

CHAPTER 2

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Chapter Outline

After reading this chapter, you will be able to answer the following key questions:

- What causes mental disorders?
- How did people understand mental disorders at different times in history?
- What are the main models that we use today to understand mental disorders?
- How do scientists study mental disorders?

From the Case of Nelson McGrath

Soon others will notice their discoloration. It's been going on for years but so slowly that only a few people are aware of it. Everyone gets a few more tiny spots every day—on their skin, their fingernails, everywhere—but they still don't see them. Lack of insight or hindsight. They are too far gone to save. Soon they will all be out of sight and out of mind.

I first noticed my own spots about five years ago, when I was 17. Little dots in the folds of my skin. I needed a magnifying glass to see them then and to study how the ink was filling up my pores. I burned my skin, salted it, rubbed myself with sand. But I couldn't stop the ink. Now I know I was looking in the wrong places. Spots come from the inside. All religions teach this lesson: Evil is our tar. Eat pure and think sure; they were the cure. My contamination was carried by the poison of cooked animals and the unclean thoughts of the young girls always around me. No one else seemed to understand. Hospitals are the worst places you can be for these contagious contaminations.

They had to be stopped despite what my parents and the doctors thought. I had undergone their procedures for years, and they did no good. I didn't get any better, only more full of light rays and sophistry. How could I be

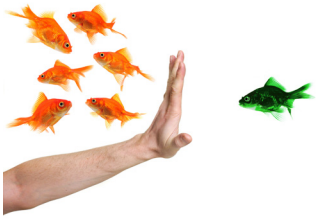
a sophist and a prophet? I knew the answer: Stay away from the young girls and the cooked animals . . . I lock myself in at night, and I put chairs against the door because you never can be sure when they might try to break through on you. Try to come in and wreck you. No wonder I can't sleep. I shouldn't sleep too deep. The girls are out there, and they're nothing but a dirty bunch of grotesqueries.

I could never have faced the terrors alone. I have guides who have gone before me. They talk to me. My older brother (who isn't dead like others say) warned me of my enemies. John the Baptist does too; being next to Christ on the cross made him sadder but wiser, and a good thing, too, for me. The rest of them can go to Hell . . . Stop the spots. Stop the spots. I will stop the spots.

—From the diary of Nelson McGrath

You probably agree that Nelson McGrath's behavior is bizarre and that his thinking is disturbed. But what else do you think about Nelson? Would you fear him? Pity him? Envy his fantasy life? And how would you explain Nelson's thoughts and actions? Is he evil? Sick? Inspired? Mentally disordered?

These are just a few of the attitudes and ideas about abnormality that people have adopted in various parts of the world at different times in history. Prevailing attitudes tend to reflect a society's broader values, beliefs, and standards regarding issues such as the importance of science or religion and the degree to which people are responsible for their own problems. The specific attitudes that prevail at a given time and place strongly influence what happens to those who are labeled *abnormal*. As a result, people such as Nelson have been callously ignored, given cleansing baths, offered "talking therapy," confined in dismal cells, granted special privileges, drugged, operated on, or burned at the stake. In fact, your own background has shaped your reaction to people such as Nelson, just as it shapes your interactions with the rest of the world.



MAPS - Prejudicial Pigeonholes

Throughout time, every culture has struggled to define the forms of conduct that constitute abnormal behavior, also known as madness, mental illness, or mental disorders, which is the term used by most clinicians today. Like attitudes toward troubled people, these definitions grow out of historical and cultural contexts. As discussed in Chapter 1, in some settings, the most important criterion for defining abnormality has been whether behavior violates social expectations. In other settings, personal distress and suffering have been emphasized. Meanwhile, some people believe that the terms *crazy*, *mad*, or *ill* have been labels for behaviors that certain people dislike.

In Chapter 1, we evaluated various definitions of *abnormality* that have been prominent throughout the ages. Although none of these definitions is completely objective or universally accepted, we believe that **abnormal behavior** is best defined as a disturbance of an individual's behavioral, psychological, or physical functioning that is not culturally expected and that leads to psychological distress, behavioral disability, or impaired overall functioning. Chapter 1 covered how we define, detect, and categorize abnormal behavior as mental disorders today. In the sections that follow, we describe how societies throughout history have attempted to understand and treat such behavior.

abnormal behavior: A pattern of behavioral, psychological, or physical functioning that is not culturally expected and that leads to psychological distress, behavioral disability, or impaired overall functioning.

Making Sense of Abnormality: A Brief History of Early Models of Mental Disorders

Several distinct themes appear in the way people in various cultures have viewed and treated abnormality over time. To review these themes, this chapter will take a whirlwind tour through time to give you an idea of how a person such as Nelson McGrath might be received in different cultures and at different times in history.

Faraway Places, Ancient Times, and Supernatural Forces

There are no systematic, written records prior to the Egyptian and Mesopotamian cultures of around 3500–3000 B.C.E., so scholars depend on archeological discoveries and interpretations of oral myths to speculate about what our ancient ancestors would have made of Nelson McGrath. Some evidence suggests that they would have considered his behavior, and any other abnormality, as a reflection of the presence of evil spirits or other overpowering supernatural forces. Seen as an innocent victim of his affliction, Nelson might have been helped to expel his invader. This might have included *trephining*, a crude form of surgery practiced during the Stone Age in which a hole was bored through a person's skull, probably to give evil spirits a means of escape (Restak, 2000).

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Definitions of abnormal behavior depend on certain characteristics of people, such as their developmental stage and maturity. An adult who behaved in the same way as these children might be considered abnormal because such behavior would violate social expectations about how "normal" adults behave.

As ancient Chinese, Egyptian, and Hebrew civilizations developed, abnormal behavior was often blamed on evil spirits and demons, as were bad weather, earthquakes, physical illness, and other unexplainable events. For example, according to the Biblical account, Israel's first king, Saul, was troubled by evil spirits and treated with calming music. Indeed, when "David took the harp and played it . . . Saul was refreshed and was well, and the evil spirit departed from him" (I Samuel 16:14–23). However, abnormality was sometimes interpreted Biblically as divine punishment for disobedience or other misbehavior. For example, Nebuchadnezzar, King of Babylon, was said to be stricken with *lycanthropy* (the belief that one is a wolf) as divine retribution for his boastfulness (Daniel 4: 28–33). The king had to live in the wild until, after acknowledging God's power, his reason was restored, and he was reinstated.

Thus, ancient civilizations might have dealt with Nelson in many ways (Hergenhahn & Henley, 2013). Prayer and faith healing were used to treat abnormal behaviors and may have been timed to coincide with the movement of planets or stars in hopes of enhancing the treatment. Some practitioners favored exorcism rituals designed to scare, drown, pummel, or whip evil spirits out of the host body, or they concocted mixtures of animal excrement and blood to poison the evil spirits. But priests and religious healers supplemented incantations with treatments designed to correct problems in biological processes that were also seen as related to abnormality. If they had treated Nelson McGrath, they might have prescribed exercise, peaceful activities, an improved diet, and additional rest.

The Birth of the Medical Tradition: The Classical Period

The development of formal philosophy by the Greeks around 600–500 B.C.E. introduced the belief that humans were capable of understanding and taking control of themselves and their world. The Greek philosophic traditions of critical analysis and careful observation were refined during the 3rd, 4th, and 5th centuries B.C.E. by the two greatest philosophers of the Classical period: Plato and Aristotle. Plato believed that humans gained knowledge of the world rationally, through reasoning and recollection, and that people could discover universal concepts and truths that lay behind misleading appearances. Aristotle, on the other hand, claimed that people acquired knowledge through analyzing perceived events, thus laying the groundwork for the empirical method on which psychology and other sciences are based today.

These attempts to understand and to explain events in natural (rather than supernatural) terms were compatible with the Greeks' increasing knowledge of the human body. Hippocrates (460–370 B.C.E.), the early physician known as the "father of medicine," argued that all illnesses had physical causes (Grammaticos & Diamantis, 2008). He concluded

that mental disorders were also biological in nature and could be traced to imbalances among the four major fluids, or *humors*, of the body: yellow bile, black bile, blood, and phlegm. For example, excessive yellow bile was thought to cause the overexcitement of mania or Nelson McGrath's anger and impulsivity, whereas too much black bile was related to depression. Treatment consisted of efforts to restore balance among the humors, usually through special diets, laxatives, and purgatives. Hippocrates' views guided Greek and Roman physicians for several centuries. Galen, a famous Roman doctor who lived about A.D. 130–201, refined humoral theory and used it to describe human temperaments and "diseases of the soul." Galen also emphasized the role of the brain in controlling mental processes. To rebalance humors, Galen, like Hippocrates, prescribed medicine, as well as special diets and physical therapy, such as showers, sunbathing, and even sneezing bouts (achoo).

Similar ideas about the desirability of physical balance can be found in the Chinese culture of this era and the philosophy of Taoism. Normal behavior was thought to depend on the proper balance between *yin* and *yang*, the two major opposing forces in the universe. Yin is usually associated with nurturance, darkness, and femininity; yang, with power, light, and masculinity. Unifying these opposites is seen as the major task of life, requiring moderation in behavior and openness to nature's healing forces.

The Nelson McGraths of ancient times might also have received some sort of "talking cure." From antiquity, physicians, philosophers, and clerics have believed that the skillful use of words could soothe troubled minds and alter disordered behavior. In the 4th century B.C.E., for example, Stoic philosopher Epictetus argued that "men are disturbed not by things, but by the view which they take of them." Galen himself subscribed to Plato's belief that the power of reason could control emotions and argued that a physician could, through persuasion and advice, help patients overcome anger, anxiety, and other emotional problems.

To summarize, thinkers in the Classical period began to emphasize natural over supernatural causes of mental disorders, paving the way for later biological and psychological theories of abnormality. The Classical period also established in Western minds the idea that medical doctors were the experts responsible for understanding and treating mental disorders. This idea ultimately led to the rise of psychiatry as a specialty that most people in modern Western cultures recognize as an important mental health profession.

From Demons to Instincts: The European Tradition

The Greek and Roman civilizations began to decline around A.D. 200 and continued to deteriorate until the fall of the Roman Empire in A.D. 476. During the next 500 years, a period known as the *early Middle Ages*, Europe experienced great political and economic upheaval. The feudal system replaced nation states and wars were common. Reliance on rationalism and empiricism as sources of knowledge was replaced by the belief that, through faith and meditation, God would reveal divine truths.

We concentrate on developments in Europe throughout this period because contemporary mental health fields grew largely from Western European origins. However, non-European cultures influenced the understanding and treatment of abnormal behavior as well (Shiraev, 2010). For example, in both the Middle East and Africa, beliefs about the causes of abnormal behavior vacillated between the supernatural and the physical. Folk healers combined magic, herbal medicines, and common sense to treat the disturbed. Both cultures stressed the value of the local community in caring for people with mental disorders, a key notion that we return to in future chapters.

The Middle Ages and the Return of Demons

As the influence of Christian theology grew in Western Europe, science became less important. Once again, people began to believe that supernatural forces, especially the Devil and his demons and witches, were responsible for disordered behavior and that it should be treated with exorcisms or other religious rituals. Magical potions were concocted to purge evil forces. Nelson McGrath might have been given this one:

> Take a testicle of a goat that has been killed on a Tuesday midnight, during the first quarter of the moon, and the heart of a dog, mix with the excrement of a newborn babe, and after pulverizing, take an amount equivalent to half an olive twice a day. (Roback, 1961, p. 215)

Greek and Roman traditions did not disappear completely. For example, in his book *The Canon of Medicine*, the Islamic physician Avicenna described humane procedures that preserved the philosophical traditions of Aristotle and the medical practices of Galen. Beginning in the 8th century, Islamic physicians pioneered the use of hospitals in which mentally disordered people received special treatment. In Europe, numerous monasteries served as sanctuaries for the mentally disordered. By providing a place where disturbed persons could be isolated from stress and treated kindly, these facilities represented a continuation of the Greek medical tradition.

The late Middle Ages (from A.D. 1000 to the 14th century) saw harbingers of a new era. For one thing, the influence of the Christian Church on politics and philosophy began to weaken. However, the Church did not relinquish its dominant role in human affairs easily. As more secular worldviews gained influence, the Church intensified its use of power in a search for suspected heretics and witches. Thousands of suspects were tortured, and many were burned at the stake in the name of religious orthodoxy. Physician-priests "diagnosed" the "possessed" by looking for signs of the devil (*stigmata diaboli*) on their skin (Spanos, 1978). The search for the demon-possessed was guided by the publication of *Malleus Maleficarum*, or *Witches' Hammer*, about 1486, by the Dominican monks Heinrich Kraemer and Johan Sprenger. This book was regarded as the definitive treatise on the links between sin, demonic possession, witchcraft, and disordered behavior. It described magical methods for detecting demonic possession, as well as many gruesome methods for extracting confessions from witches, which, had he lived in the late Middle Ages, might have been used on Nelson McGrath from the chapter-opening case (though about 75% of the people prosecuted as witches were female).

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In the Middle Ages, supernatural forms of intervention such as exorcism once again became a standard treatment for the mentally ill.

The Renaissance and the Rise of Humanism

The spirit of the European Renaissance appeared as early as the 13th and 14th centuries as intellectual, cultural, and political life became more and more secular. The dawn of the Renaissance itself is generally marked as 1453, when the fall of Constantinople to the Turks ended the Byzantine Empire. The Renaissance saw a secularization of life and values known as *humanism* (Leahey, 1992). It was greatly facilitated by the advent of the printing press in 1440. As books became more accessible, people came in contact with ideas other than those authorized by the Church. For example, Copernicus's (1473–1543) theory that the sun, not the earth, was the center of the universe paved the way for later scientific discoveries that demystified all aspects of nature, from the heavens to the inner workings of human beings. People began to see the study of individuals and human nature—including behavior and social relations—not as a way to discover or honor God, but as a worthy topic in its own right. The Renaissance may have been the first era in which *psychological* concerns equaled or surpassed theological issues as the dominant questions of the day.

At the same time, physicians again came to view the human body as a biological machine to be studied empirically, not as an inviolate creation of God. The philosopher Rene Descartes (1596–1650) sought to explain a great deal of human mental activity in physical, mechanical terms. In fact, he suggested that we could learn about human minds by studying animal behavior, a view shared by many modern psychologists. The physicians Paracelsus (1493–1541) and Johann Weyer (1515–1588) championed naturalistic explanations of mental disorders that included both biological and psychological factors. Weyer is often considered the first **psychiatrist** (a medical doctor who specializes in the study and

psychiatrist: A medical doctor who specializes in the study and treatment of mental disorders.

treatment of mental disorders) because of his careful descriptions of various mental disorders and his belief that treatment of these disorders required a "therapeutic relationship marked by understanding and kindness" (Brems et al., 1991, p. 9). Weyer ridiculed belief in witches and condemned the brutal treatments supported by many theologians.

On the assumption that quarantine provided the best protection for both the public and the mentally disturbed, treatment of mental disorders during the Renaissance gradually took the form of confinement in hospitals and asylums, many of which had once been monasteries. If Nelson McGrath had lived in London, for example, he might have been admitted to the St. Mary of Bethlehem monastery, which had become a hospital in 1547. Local citizens referred to this mental hospital as "Bedlam," a contraction of the word *Bethlehem*.

Unfortunately, Renaissance treatments for mental disorders were not much better than were those of the Middle Ages. Indeed, people in the hospitals of the Renaissance were usually treated as prisoners and had to endure abominable conditions. Jonathan Swift (1704), a great novelist of the period, described the condition of a Bedlam inmate this way:

> . . . The best part of his Diet, is the reversion of his own Ordure, which expiring into Steams, whirls perpetually about, and at last reinfunds. His Complexion is of a dirty Yellow, with a thin scattered Beard, exactly agreeable to that of his Dyet upon its first Declination; like other Insects, who having their Birth and Education in an Excrement, from thense borrow their Colour and their Smell.

The Enlightenment and the Rise of Science

In the 17th and 18th centuries, the trend toward naturalistic world views blossomed. This era, known as the *Enlightenment*, was characterized by an unshakable confidence in human reason and in science especially. During this era, Kepler (1571–1630) proposed the basic laws of planetary motion, and Newton (1642–1727) described the principle of gravity and developed calculus. It was assumed that empirical research would reveal mathematical or mechanical principles that governed all phenomena, including human behavior. This assumption made it possible, late in the 1800s, for psychology to become a scientific discipline.

Although modern science had begun, the deplorable conditions in European and North American asylums had not changed much. A group of reformers tried, in the last half of the 1700s, to improve the living conditions and treatment. Among these mental health "muckrakers" were Vincenzo Chiarugi (1759–1820) in Italy, William Tuke (1732–1822) in England, and Benjamin Rush (1745–1813) in the United States. Their work ushered in what became known as the *moral treatment era*.

Tony Robert-Fleury [Public domain], via Wikimedia Commons

Philippe Pinel is immortalized in paintings such as this one, where he is shown removing the chains from patients at the Paris Asylum for insane women. Pinel was known for his moral era's reformist spirit and pioneering of important methods, such as taking notes to document his observations of patients.

The inspirational leader of the moral treatment movement was Philippe Pinel (1745–1826), a French physician. When placed in charge of the Bicêtre asylum in Paris in 1793, Pinel unchained its inmates and insisted that they be treated with kindness and consideration. Pinel justified this risky, but courageous, experiment as follows: "It is my conviction that these mentally ill are intractable only because they are deprived of fresh air and liberty" (Ullmann & Krasner, 1975, p. 135). In 1795, Pinel became chief physician of the Hospice de la Salpêtrière, where a statue of him still stands today. Moral treatment tried to instill in patients like Nelson McGrath the

expectation that they could alter their disordered behavior, learn to manage daily stress, find useful employment, and get along better with others. After years of being treated as wild beasts and acting accordingly, many of the inmates at Bicêtre, Salpêtrière, and other moral treatment centers seemed transformed almost overnight into well-behaved human beings.

However, moral treatment all but disappeared by the late 1800s, especially in the United States. Why? Ironically, its own success was partially responsible. Many assumed that hospital care could help more patients if hospitals were larger than traditional moral treatment centers. In mid-19th-century America, this assumption fueled the *mental hygiene movement*, led by crusaders such as Dorothea Dix (1802–1887), a Boston schoolteacher, and Clifford W. Beers (1876–1943), a former mental patient who helped to form the National Committee for Mental Hygiene. Dix became a tireless agitator for the construction of large, public mental hospitals. Unfortunately, these new state hospitals were so understaffed that they could offer little more than custodial care to the large number of patients they housed.

Moral treatment approaches were also overshadowed in the late 1800s because psychiatrists and other physicians working in mental health came to believe that disordered behaviors were caused by biological rather than social factors and thus required treatment based on medicine. As one physician put it, there can be "no twisted thought without a twisted molecule" (Abood, 1960).

Indeed, even under the best circumstances, moral treatment approaches had only limited effects on severely disturbed patients—they often halted further deterioration but did not cure mental disorders. Some of these patients suffered a particularly severe disorder that involved ever-worsening delusions, muscle paralysis, and ultimately, death. In 1825, this deteriorative brain syndrome was termed *general paresis*, and throughout the remainder of the 19th century, physicians searched for its cause. By the turn of the 20th century, following basic discoveries of how bodily infections were caused, the puzzle was finally solved. The cause of general paresis turned out to be syphilitic infection of the brain. With this mental disorder traced to a biological cause, the search was on to find other links between mental disorders and physical causes. That search continues to this day, with varying and often limited success (Paris, 2013), and we describe its findings throughout this book.

The presence of thousands of mental patients in public hospitals in the United States, Canada, and Europe allowed psychiatrists to compare individual patterns of disordered behavior. By the end of the 19th century, these comparisons had led to systems for classifying mental disorders. The most prominent of these systems was developed by Emil Kraepelin (1856–1926) in Germany and Eugen Bleuler (1857–1939) in Switzerland.

Better classification of disorders often helped practitioners apply treatments that were the most effective for specific problems, but effective treatments for *any* problems were still scarce. Physicians simply did not know enough about organic causes to develop treatments that were much different from those of their predecessors. For example, American psychiatrist Benjamin Rush treated mental patients like Nelson McGrath from the chapter-opening case with bleedings and purges, and physicians often sought to tranquilize agitated patients by binding them in chairs, confining them in narrow cribs, dunking them in water, or wrapping them tightly in wet sheets (Benjamin, 2007). Believing that mental health depended on proper digestion, Horace Fletcher advocated chewing each mouthful of food hundreds of times before swallowing.

MAPS - Medical Myths

Connections

How do these early classification systems compare with those in use today? For a history of various systems used to classify mental disorders, see Chapter 1.

The Psychoanalytic Revolution

As people continued to find ways to treat mental conditions, interventions based solely on talking with patients began to emerge, including hypnosis and psychotherapy. Of all the treatments for mental disorders used during the Enlightenment, *hypnotism* is best remembered, and it is still used today. First known as *mesmerism*, hypnotism was popularized as a quasi-magical cure by a French physician, Franz Anton Mesmer (1734–1815), who believed it could realign magnetic forces in the body.

Soon, a number of reputable physicians were experimenting with hypnosis. For example, in India, James Esdaile pioneered hypnotic anesthesia during surgery. French

psychiatrists such as Jean Charcot, Pierre Janet, and Hippolyte Bernheim discovered that hypnosis could be helpful in the treatment of **hysteria**, a disorder in which patients with normal physical abilities appear unable to see or hear or walk. This success helped to reawaken the idea that at least some mental disorders might be caused by psychological factors as well as—or even instead of—biological dysfunctions (Hergenhahn & Henley, 2013).

hysteria: A mental disorder in which patients with normal physical abilities appear unable to see or hear or walk.

Enter Sigmund Freud, a Viennese neurologist who, with his colleague Joseph Breuer, successfully used hypnosis—and other "talking cures"—to treat cases of hysteria. Late in the 1800s, Freud's clinical experience led him to conclude that many forms of abnormal behavior were caused by intense, prolonged, and largely unconscious mental struggles between instinctual desires and concern over social prohibitions against fulfilling those desires (Gay, 2006). Freud was certainly not the first to focus on unconscious processes as the basis for abnormal behavior. Philosophers such as Johann Herbart (1776–1841) and Gottfried Wilhelm Leibniz (1646–1716) had discussed the importance of the unconscious, and writers and artists of the early 19th century had suggested that our most base passions are rooted in the unconscious and revealed in our dreams. It was Freud, however, who synthesized these ideas into a coherent theory of personality and abnormal behavior that suggested *how* and *why* unconscious conflicts and other psychological processes create disordered behavior (discussed later in the chapter). Freud also applied his theory of abnormality via psychoanalysis, the first modern psychological treatment ("talking cure") of mentally disturbed people.

Psychological explanations of abnormal behavior gained influence with the help of a new mental health profession known as **clinical psychology**, the branch of psychology devoted to scientifically studying mental disorders as well as assessing, diagnosing, and treating them. In the United States, the first psychological clinic was founded in 1896 (Nietzel et al., 1998). When Freud came to the United States to deliver lectures at Clark University in 1909, he received a warm reception from American psychologists interested in mental disorders. Their response came partly because Freud's ideas suggested an important role for psychologists, not just psychiatrists, in assessing and treating psychological disorders (see Table 2.1). Many clinical psychologists began to apply their training in motivation, emotion, learning, social influences, and other areas to develop psychological theories about abnormal behavior that went beyond—and often conflicted with—Freud's doctrine, as we discuss further later in the chapter.

clinical psychology: The branch of psychology devoted to studying, assessing, diagnosing, treating, and preventing abnormal behavior.

Contemporary Approaches to Abnormality

Our historical review shows that there has always been competition among approaches or conceptual models to explain the abnormal behavior of people such as Nelson McGrath. **Models of abnormality** are comprehensive accounts of how and why mental disorders develop and how best to treat them. They provide a conceptual map to help researchers and practitioners decide which aspects of abnormal behavior are most important to study—overt behavior or accompanying thoughts, for example—and which treatment methods—exorcism, drugs, or talking—are most likely to help. The popularity of different models has waxed and waned from time to time and place to place throughout history. For example, in Western cultures today, the supernatural model of abnormality is largely overshadowed by the biological, psychological, sociocultural, and diathesis-stress models. In the following sections, we consider each of these models in more detail and how they seek to account for abnormal behavior.

model of abnormality: A comprehensive account of how and why abnormal behaviors develop and how best to treat them.

Section Review

Views of abnormal behavior are influenced by historical context, social attitudes, and cultural standards. Key figures in the history of the development of scientific approaches to abnormal behavior include:

- Hippocrates and Galen, physicians of ancient Greece and Rome who developed treatments of abnormal behavior derived from medical knowledge;

TABLE 2.1 The Mental Health Professions

Profession	Description
Psychiatrists	Psychiatrists are medical doctors who have completed additional years of training (called a *residency*) in the specialty of psychiatry. As MDs, psychiatrists can prescribe medication.
Clinical psychologists	Psychologists have earned a doctoral degree (PhD or PsyD) in psychology and specialize in applying scientific methods to the study, assessment, and treatment of mental disorders. Except for in a small number of states with a special certification, clinical psychologists cannot prescribe medication.
Psychiatric or clinical social workers	Psychiatric social workers usually have completed a master's degree in social work (MSW) and concentrate on treating mental disorders and family problems, as well as working with communities and larger systems.
Psychiatric nurses, occupational therapists, and recreational therapists	These professionals have completed advanced training in their specialty areas (e.g., RN, OT) and offer treatment services, usually as members of a mental health team. Some nurse practitioners (NP) can prescribe medication under a doctor's supervision.
Professional counselors	Counselors typically complete a master's of counseling degree (MA) and offer treatment to their clients in individual and/or group settings.
Marriage and family counselors	These professionals complete postgraduate study with a specialization in marriage and family therapy (MFT). They offer treatment for couples and family problems, which sometimes also involve mental disorders.

- Avicenna, an Islamic physician whose writings helped preserve Greek and Roman learning during the early Middle Ages;
- Pinel, a French physician and inspirational leader of the moral treatment movement who unchained the inmates of the *Bicêtre* asylum in Paris in 1793; and
- Sigmund Freud, who developed the first purely psychological model of abnormal behavior.

The Biological Model

The basic assumption of the **biological model** of abnormality is that the nervous system controls all thought and behavior, whether normal or abnormal. From this perspective, any event or substance that affects the functioning of the nervous system also affects thinking and behavior. The abnormal behaviors and thought patterns displayed by Nelson McGrath from the chapter-opening case—and others who are diagnosed with mental disorders—are assumed to arise from changes in neural functioning triggered by drugs, hormone imbalances, environmental toxins, head trauma, major infections, genetic defects, or other biological factors. Biological treatments attempt to change the patient's physical condition, usually through the use of therapeutic drugs.

Stemming directly from the biological model, the **medical model** of abnormal behavior considers that disturbed behavior involves *symptoms* of some underlying illness that is the result of specific causal or **etiological factors**. The person with the symptoms is considered a patient. The symptoms tend to go together in a pattern known as a *syndrome* that follows a well-recognized course, allowing professionals to diagnose a specific illness and to offer a prognosis of how the illness will likely unfold. The medical model often looks for biochemical or other physical causes of a syndrome.

Insights into the biological factors involved in abnormal behavior have expanded greatly in recent decades, thanks in large part to research in **neuroscience**, a set of

biological model: A model of abnormal behavior that explains how biological factors influence thought and behavior, both normal and abnormal.

medical model: A model that explains abnormal behavior as symptoms resulting from an underlying illness.

etiological factor: A specific cause of disorders.

neuroscience: A set of disciplines that study the structure, organization, functions, and chemistry of the nervous system, especially the brain.

hindbrain: One of the three main parts of the brain, it includes structures such as the medulla, the reticular formation, and the cerebellum, which maintain activities essential to life.

midbrain: One of the three main parts of the brain, it helps coordinate head and eye movements, controls gross body movements, and is involved in basic responses to visual, auditory, and tactile stimuli.

forebrain: The largest of the three main parts of the brain, it includes structures that are responsible for processing sensory information, guiding body movements, and thinking.

thalamus: A key structure in the forebrain that receives, analyzes, and sends on information from all the senses except smell.

hypothalamus: A key structure in the forebrain that aids in regulating hunger, thirst, sex drive, and other motivated behavior, as well as activity of various internal organs.

disciplines that study the structure, organization, functions, and chemistry of the nervous system, especially the brain.

The Nervous System and Abnormality

The human brain has been categorized into three major regions—hindbrain, midbrain, and forebrain—each with its own interrelated specialty functions.

The Hindbrain

The **hindbrain** includes structures that maintain activities essential to life. For example, it includes the *medulla*, which maintains and regulates basic functions such as breathing, swallowing, heart rate, and blood pressure; the *reticular formation*, which controls arousal, attention, and sleep-wakefulness cycles; and the cerebellum, which maintains balance and posture and controls locomotion and finely coordinated movements such as threading a needle. Damage to parts of the hindbrain can leave a person comatose (Myers, 2011).

The Midbrain

The **midbrain** helps coordinate head and eye movements and controls gross movements of the body and limbs. The midbrain is also involved in basic responses to visual, auditory, and tactile stimuli and regulates responsiveness to rewarding stimuli.

The Forebrain

The largest part of the brain, the **forebrain**, includes structures that are responsible for a wide variety of functions, from processing sensory information and guiding the body's movements, to accomplishing the most complex aspects of thought and imagination.

The thalamus, hypothalamus, and cerebrum are key structures in the forebrain, as shown in Figure 2.1. The **thalamus** is a kind of relay station that receives, analyzes, and sends on information from all the senses (except the sense of smell). Located just below the thalamus is a small but vital structure called the **hypothalamus**, which regulates

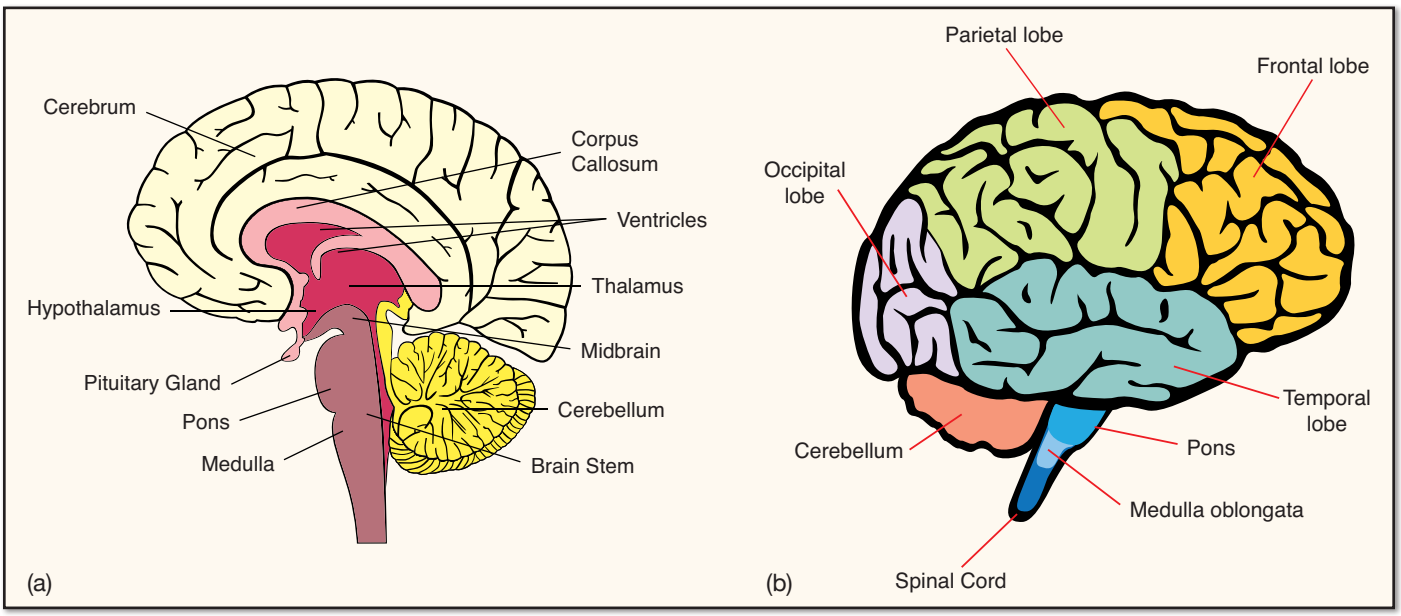


FIGURE 2.1 The Human Brain

This figure shows major regions of the human brain. (a) This side view of the human brain shows the right cerebral hemisphere (the right half of the brain), including major parts of the hindbrain, along with the thalamus and hypothalamus, which are part of the limbic system in the forebrain. (b) The second image provides a broad view of the four main lobes of the brain: frontal, parietal, occipital, and temporal.

Source: (a) udaix/Shutterstock. (b) Athanasia Nomikou/Shutterstock.

hunger (food), thirst (fluids), temperature (fever), and our sex drive, sometimes grouped together as "the 4 Fs" (think about it for a minute).

The hypothalamus receives information from the autonomic nervous system about the functioning of internal organs, and responds to chemical messengers called **hormones** that are secreted by the adrenal glands and other parts of the **endocrine system**, a network of glands that affect organs throughout the body by releasing hormones into the bloodstream. The hypothalamus connects to the **pituitary gland**, which in turn serves as the director of the endocrine system. As we discuss in later chapters (e.g., Chapter 9), activity in the hypothalamus and pituitary are key elements of our physiological responses to stressful events. The hypothalamus is also part of the *limbic system*, a group of interconnected forebrain structures that play important roles in regulating emotion and memory.

hormone: A chemical messenger secreted by the adrenal glands or other parts of the endocrine system.

endocrine system: A network of glands that affects organs throughout the body by releasing hormones into the bloodstream.

pituitary gland: A structure in the forebrain that controls the endocrine system and plays a key role in physiological responses to stressful events.

The Cerebrum and Cerebral Cortex

The **cerebrum**, and especially its outer covering, the **cerebral cortex**, is the part of the human brain that is the most distinct from the brains of other mammals and the most active in such distinctively human capabilities as abstract thought and complex language. The cortex is divided into two hemispheres, each of which is itself divided into regions, called *lobes* (see Figure 2.1). Different lobes are involved in somewhat specialized aspects of information processing. It is the cerebral cortex that allows humans to think and wonder about the world, not just react to it. We can plan, but we can also worry. As Carl Sagan (1977) noted, a "price we pay for anticipation of the future is anxiety about it."

cerebrum: Main part of the human brain, covered by the cerebral cortex; responsible for integrative processes such as thought, language, and emotion. It is divided into two hemispheres, which are further divided into lobes.

Mental Disorders and the Brain

Until recently, evidence of a direct link between mental disorders and brain structures depended on autopsies or, perhaps, neurosurgery. Today, however, imaging techniques such as *computerized tomography (CT scans)*, *magnetic resonance imaging (MRI, fMRI, and dMRI scans)*, and *positron emission tomography (PET scans)* provide new ways of watching the brain at work (see Chapter 1). Imaging techniques allow the study of how brain damage or subtle problems in brain functioning might account for certain mental dysfunctions. For example, these techniques show that the mental decline in patients with Alzheimer's disease (described in Chapter 15) is related to progressive degeneration in the cerebral cortex and in the *hippocampus* (Van Hoesen & Damasio, 1987). They also indicate that some cases of schizophrenia (Chapter 4) are related to atrophy of brain tissue and to irregularities in the flow of blood to the brain (Gur & Pearlson, 1993).

Connections

What do neurotransmitters have to do with mental disorders? *Dopamine* is involved in schizophrenia (see Chapter 4), *serotonin* plays a role in depression (Chapter 6), and GABA affects anxiety disorders (see Chapter 7).

The Role of Neurotransmitters

Researchers have also investigated the possibility that disorders such as schizophrenia might be linked not only to problems in particular brain structures but also to breakdowns in communication among the brain's billions of nerve cells or **neurons**. In fact, the human brain has been found to contain an average of 86 billion neurons, with less than 20% of these located in the cerebral cortex (Azevedo et al., 2009). All normal activity, from moving an arm to thinking rationally, depends on smooth and organized communication among neurons in our brain. This communication occurs when electrochemical activity in one neuron causes it to *fire*, thus releasing chemicals called **neurotransmitters** that carry messages between neurons.

As Figure 2.2 shows, neurotransmitters are released from the end of an **axon**, a long fiber on the neuron; they flow across the **synapse**, a tiny gap between neurons, and come in contact with branchlike structures called **dendrites** on the next neuron. If the neurotransmitter binds with *receptor sites* on the dendrite, a signal is sent up the dendrite, which makes this neuron either more or less ready to fire. After affecting other neurons, neurotransmitters are reabsorbed into the neurons that released them, through a process called **reuptake**.

For example, our arm and leg muscles contract when they receive the neurotransmitter **acetylcholine** (ACH). Further, ACH neuron systems in the brain are involved in learning (Becker et al., 2013), memory (Prickaerts et al., 2012), and sleep (Platt & Riedel, 2011).

cerebral cortex: The outermost layered structure of neural tissue of the cerebrum (brain) in humans and other mammals. It is referred to as "gray matter" because it consists of cell bodies and capillaries and contrasts with the underlying white matter, which consists mainly of the white myelinated sheaths of neuronal axons.

neuron: A nerve cell in the brain that specializes in transmitting information.

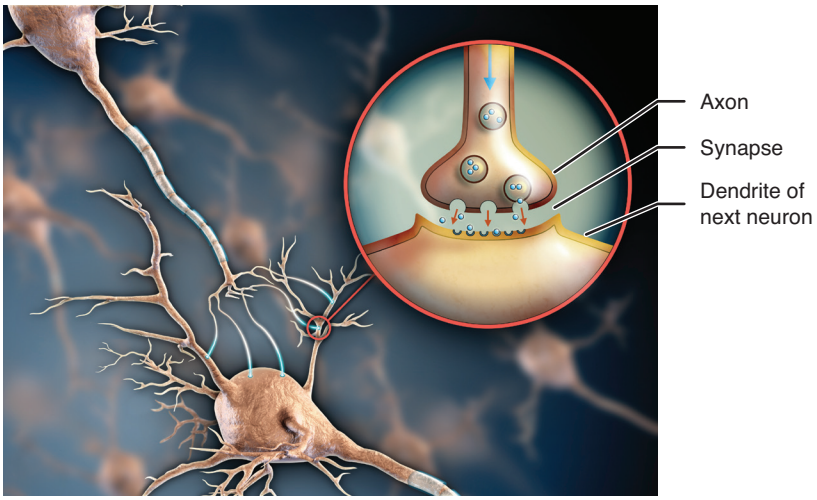
neurotransmitter: A chemical released by neurons that acts on other neurons.

axon: A long fiber extension of a neuron from which neurotransmitters are released.

FIGURE 2.2 The Synapse and Communication Among Neurons

When a neuron fires, the nervous impulse is carried along the axon, which triggers release of a neurotransmitter across the synapse, where it may bind to a receptor on the dendrite of another neuron. The result is the spread of an electrical impulse on the dendrite of the second neuron. This impulse may stimulate or inhibit this neuron from firing and releasing its own neurotransmitters.

Source: Andrea Danti/Shutterstock.



synapse: The tiny gap between neurons where neurotransmitters are released or received.

dendrite: A branchlike structure on a neuron that receives information from other neurons.

reuptake: A process by which neurotransmitters are reabsorbed into the neurons that released them.

acetylcholine (ACH): A neurotransmitter that is critical to movement, physiological arousal, memory, learning, and sleep.

norepinephrine: A neurotransmitter involved in sleep and arousal, attention, mood, and eating.

Norepinephrine is another important neurotransmitter; it acts to increase heart rate and respiration and is involved in sleep and arousal (Kim et al., 2013), attention (Kim et al., 2013), mood (Ruhé et al., 2007), and eating behavior (Latagliata et al., 2010). In this model, Nelson McGrath from the chapter-opening case would be assumed to have too much of the neurotransmitter **dopamine** in his brain, which has been implicated in schizophrenia (Chapter 4). Two other vital neurotransmitters—**serotonin** and **GABA**—play roles in depression (Chapter 6) and anxiety (Chapter 7), respectively.

It is no wonder that drugs that alter neurotransmitters can produce complex psychological and behavioral effects. As we discuss in later chapters, most of the drugs used to treat mental disorders have a strong effect on the level or activity of some neurotransmitter, such as Prozac increasing the availability of serotonin in the brain. Nelson McGrath would likely be prescribed a drug such as Thorazine, which would reduce the level of dopamine in his brain.

Genetic Influences on Abnormality

Why would neurotransmitters operate abnormally? Why do brain structures deteriorate? In some cases, genes may hold the answer. **Genes**, the basic units of heredity, determine many aspects of who and what we are, from eye color and skin tone to body type and vulnerability to disease. At conception, the new cell formed by the fertilization of an egg by a sperm contains 23 pairs of chromosomes—half from the father and half from the mother. As the new cell divides and redivides into billions of cells, a human being is formed out of a unique combination of genes from both parents (Brooker, 2011).

Cartoon Resource/Shutterstock

What Are Genes and What Do They Do?

Human heredity is determined by an estimated 100,000 genes, each of which rests at a specific location, or *locus*, along a chromosome. Chemically, genes are strands of **deoxyribonucleic acid**, or **DNA**, which is made up of nucleotides. Each **nucleotide** consists of sugar, phosphate, and bases containing nitrogen. Through a complex series of steps, DNA directs chemical reactions that assemble amino acids into proteins. The specific proteins produced depend upon the particular order in which the nitrogen-containing bases occur in the nucleotides. Proteins, in turn, form and direct the structure of human cells. In short, DNA provides the genetic code that, during prenatal development, determines how proteins are used to build each cell in the body, including the brain (Brooker, 2011).

Note that genes affect physical features and behavior indirectly, by determining the production of proteins. However, not every gene is expressed in a person's physical characteristics or behavior. Whether a gene is expressed depends on which other genes are present. The path from genes to physical characteristics or behavior is further complicated by the fact that many genes at different locations influence most characteristics. A faulty gene or a problem with genetic expression can cause serious dysfunctions. For example, *phenylketonuria (PKU)* is a rare disorder that has been traced to the malfunction of a single gene (see Chapter 3). This malfunction creates a deficiency in the enzyme that metabolizes phenylalanine, an amino acid found in many foods. Unless given a special diet that excludes foods containing phenylalanine, individuals with PKU suffer a variety of physical problems and progressive mental deterioration. PKU illustrates that a person's genetic makeup, or **genotype**, interacts with the environment—in this case, a nutritional environment—to determine one's **phenotype**, the characteristics and traits actually displayed.

The expression of genetic predispositions is also influenced by such prenatal factors as hormones, drugs, maternal nutrition, and health; by childhood illnesses; by the home and school environment; and by a variety of other social experiences and relationships. In short, genetic endowment (often referred to as *nature*) is always interacting with past and present environmental factors (often called *nurture*) to shape physical and behavioral characteristics.

In the past decade or so, a new area of science has blossomed. **Epigenetics** is the study of heritable changes in gene activity that are not caused by changes in the actual DNA sequence. Epigenetics literally means "above" or "on top of" genetics and refers to external modifications to DNA that turn genes "on" or "off" (Rettner, 2013). The burgeoning field of epigenetics has great relevance for abnormal psychology via its contributions to *behavioral genetics*, described in the next section. According to González-Pardo & Álvarez, "research has identified epigenetic mechanisms mediating between environmental and psychological factors that contribute to normal and abnormal behavioral development" (2013, p. 3). In fact, it is now clear that epigenetic mechanisms promote key neurobiological processes, ranging from neural stem cell maintenance and differentiation to learning and memory (Qureshi & Mehler, 2013). As such, epigenetics plays a role in a wide range of mental disorders, including autism spectrum (Rangasamy et al., 2013) and substance use disorders (Nestler, 2014). For example, there is mounting evidence that repeated exposure to drugs of abuse can cause epigenetic changes within a person's brain's reward regions, ultimately resulting in changes in their future addictive behavior (Nestler, 2014). Epigenetic changes, specifically related to genes associated with stress reactivity and emotional regulation, can also be found with individuals who have experienced childhood trauma and stress (Pilkay & Combs-Orne, 2020).

dopamine: A neurotransmitter that is prominent in several areas of the brain and is linked with several types of mental disorder.

serotonin: A neurotransmitter that influences emotion, sleep, and behavioral control.

gamma-aminobutyric acid (GABA): A neurotransmitter that inhibits postsynaptic activity.

deoxyribonucleic acid (DNA): The substance that is the primary component of genes.

nucleotide: Any of several biochemical compounds that make up DNA and contain sugar, phosphate, and a nitrogen base.

gene: Strands of DNA that are located along a chromosome and are the basic units of heredity.

genotype: A person's genetic makeup.

phenotype: The characteristics a person displays that result from the interaction of genetic makeup and the environment.

epigenetics: The study of heritable changes in gene activity that are not caused by changes in the actual DNA sequence. Epigenetics literally means "above" or "on top of" genetics and refers to external modifications to DNA that turn genes "on" or "off."

Behavioral Genetics

Scientists in the field of **behavioral genetics** use specialized research methods to study genetic—and epigenetic—influences on behavior and to understand the combined influences of nature and nurture on human behavior (e.g., Klahr & Burt, 2014). A key concept for behavioral genetics is **heritability**, the proportion of observable differences in a behavioral trait between individuals that is due to genetic differences (Gjerde et al., 2012). To determine heritability, behavioral geneticists often conduct **family studies** that examine the pattern of disorder in members of the same family. These studies capitalize on the fact that the closer the relationship between people, the more genes they share. Identical, or *monozygotic*, twins share 100% of their genes; parents and their children, as well as fraternal—or *dizygotic*—twins and other siblings, share about 50% of their genes. Nieces, nephews, aunts, and uncles who are genetically related share about 25%, first cousins about 12.5%. Thus, if a trait is based entirely on genetic heritage, we should be able to predict the likelihood that two individuals will share that trait from a knowledge of their genetic similarity. For example, *Huntington's disease*, a genetically determined disorder that causes severe behavioral and mental problems, is caused by a single dominant

behavioral genetics: A scientific field that examines genetic influences on behavior and their interaction with the environment.

heritability: The proportion of observable differences among individuals in a particular trait that is due to genetic differences.

family study: A technique used by behavioral geneticists to examine patterns of a disorder in members of a family.

gene (Giles et al., 2012). Thus, the child of a parent with the Huntington's gene has a 50% likelihood of having this gene, too.

However, genetic influences are seldom as clear as in Huntington's disease. For example, in the chapter-opening case, Nelson McGrath's disorder is thought to be caused by an interaction of multiple genes, rather than by a single gene. Moreover, closer kin tend to share more similar environments as well as more similar genes. Finding a high **concordance rate**—or sharing—of a trait or disorder in close relatives cannot by itself prove that the trait or disorder is inherited. Siblings might display the same disorder because they are eating the same food or living near the same toxic waste dump, not because they share genes.

concordance rate: The rate, at which a trait or disorder is shared with close relatives, such as a twin.

The interaction of nature and nurture can be explored more powerfully by observing results of the "natural experiments" that occur when children are adopted or when twins are separated. In **adoption studies**, researchers look at traits and disorders in people who were separated from their biological parents at very early ages. If such people's traits are more like those of their biological parents (with whom they share many genes) than like those of their adoptive parents, a genetic influence on those traits is supported. In one study, adopted children whose biological parents had an alcohol use disorder were more likely to have problems with alcohol themselves, regardless of the alcohol habits of their adoptive parents (Cloninger et al., 1981). **Twin studies** compare the traits of monozygotic twins who were separated soon after birth and raised in different environments with the traits of monozygotic twins reared together and dizygotic twins reared together or apart. Finding very similar traits in identical twins, even when they experienced different environments, provides evidence for a genetic influence on those traits. Several twin studies have found just such evidence in children's temperament and personality (e.g., Buss, 1995; Loehlin, 1989; Tellegen et al., 1988).

adoption study: A method of systematically examining traits and disorders in persons who were separated from their biological parents at early ages; the method compares similarities between adopted individuals and their biological and adoptive parents.

twin study: A method of systematically comparing the traits of monozygotic twins reared together or apart with the traits of dizygotic twins reared together or apart.

Adoption and twin studies can be used together to determine the heritability of a particular disorder, with heritability estimates from adoption studies typically lower than those from twin studies (Burt, 2009). Behavioral genetics research estimates *the average influence* that genes and environment exert on *individual differences within a group of people*. For example, this research has shown that Nelson McGrath's chances of developing schizophrenia would be higher if he had a biological parent with this disorder, and higher still if he had an identical twin with schizophrenia (see Chapter 4), which would be covered in the family history section of any assessment with Nelson. We describe evidence from numerous studies of behavioral genetics in later chapters, as we examine genetic and environmental influences on a variety of abnormal behavior patterns. As this chapter's "Controversy" feature suggests, claims about genetic influences on abnormal behavior often lead to passionate debates about the relative importance of nature (genes/biology) and nurture (environment).

Researching Biological Explanations for Behavior and Symptoms

In an effort to better understand the biological foundation of mental illness, the National Institute of Mental Illness utilizes the **Research Domain Criteria (RDoC)** as a framework for research in mental health disorders (Cuthbert & Insel, 2010; Insel et al., 2010; NIMH, 2021b). Although not intended to be diagnostic, the RDoC provides a structure for research that acknowledges and maps the biological processes that manifest as symptoms in mental health disorders and may have future implications for diagnosis.

Research Domain Criteria (RDoC): A research framework utilized by the National Institute of Mental Health that is intended to understand dimensional functioning that explains human behavior from normal to abnormal.

The RDoC focuses on six major constructs associated with human functioning (NIMH, 2021). These constructs include (1) *negative valence systems*, how our brains respond to challenging or aversive situations; (2) *positive valence systems*, how our brains respond to reward, motivation, and other positive experiences; (3) *cognitive systems*, how our brains think, remember, focus, perceive, and more; (4) *systems for social processes*, how we interact and communicate with others and understand ourselves; (5) *arousal/regulatory systems*, how our neural networks are activated; and (6) *sensorimotor systems*, how we develop and control our motor functioning (NIMH, 2018). Essentially, the RDoC purports that if we

exhibit symptoms of mental illness, we should also be able to observe and measure pathophysiological changes in at least one of the six constructs mentioned previously. Further, the structure of the RDoC allows for research of constructs that extend across diagnostic criteria. For example, researching constructs that overlap between schizophrenia and bipolar disorder can deepen our understanding of both disorders rather than researching each disorder separately per the *DSM* criteria of symptoms (Sanislow et al., 2010).

Section Review

The biological model explains abnormal behavior in terms of physical malfunctions of the nervous system. Of particular interest are:

- the cerebral cortex, the part of the brain that is involved in abstract thought and language;
- the hypothalamus, a structure of the forebrain that receives information from the autonomic nervous system (which determines physiological arousal); connects to the pituitary gland (which directs the endocrine system); is part of the system that responds to stress; and is part of the system that regulates emotion and memory; and
- the neurotransmitters, chemical messengers that, when released by neurons, stimulate or inhibit the firing of other neurons.

The development of the nervous system, and every other part of the body, is controlled by genes, which:

- are composed of DNA and are located on the chromosomes;
- influence an organism's characteristics by orchestrating the production of proteins; and
- interact with each other and with the environment in complex ways to produce the unique characteristics of every human being.

CONTROVERSY

Should We Study Genetic Causes of Abnormality?

Genes influence many prominent physical features—weight, eye color, and whether we ultimately grow bald. Genes also help account for diseases such as high blood pressure or diabetes. Although the mechanics of how genes control physical features and processes are still not completely understood, little controversy exists about whether genes are necessary for understanding the biological qualities of people.

More controversial is the role that genetic factors play in shaping mental abilities, behavior, personality traits, and mental disorders. Although few mental disorders appear to be caused solely by genetic inheritance, research consistently suggests that some combination of genes may increase people's vulnerability to certain disorders. For example, "five major mental illnesses—autism, attention-deficit/hyperactivity disorder, bipolar disorder, major depressive disorder, and schizophrenia—appear to share some common genetic risk factors, according to an examination of genetic data from more than 60,000 people worldwide" (Novotney, 2013, p. 10). After examining the genomes of people in 19 countries with one of these disorders, researchers determined that four regions of the genetic code were linked to all five disorders (Novotney, 2013).

When genetic factors are considered as contributors to a disorder, controversy often follows (Ossorio & Duster, 2005). For decades, attempts to study the genetics of behavior problems have been condemned or blocked because of concerns that even asking questions about genes and abnormality is risky or improper. What accounts for such controversy? Why are genetic theories of abnormality so unpopular? What makes it so difficult for some people to look objectively at the tangled issues involving the possible genetic roots of abnormal behavior? Does the problem reflect honest scientific disagreements or the pursuit of political agendas?

One concern appears to be that if scientists find that genetics plays a causal role in mental disorders, they will neglect key sociocultural and environmental

(Continued)

CONTROVERSY

Should We Study Genetic Causes of Abnormality? *(Continued)*

factors, along with social programs designed to correct them. This concern reflects the misconception that either nature *or* nurture is responsible for disorders; in fact, they always interact. Consistent with the diathesis-stress model, inheriting a vulnerability to a disorder should increase attention to the importance of the environment. Just as the person who is genetically predisposed to high blood pressure might need to be especially cautious about diet, the person who is genetically vulnerable to schizophrenia might need extra social support and guidance to cope with environmental threats.

A second concern about studying the genetics of abnormality is that it will lead to certain people being designated as genetically "inferior." As horribly exemplified by the Nazi era in Europe, genetic research has led to awful abuses, including forced sterilization, genocide, coerced abortions, and discriminatory immigration policies—all conducted to get rid of supposedly inferior people. Although critics of contemporary genetic research often associate it with past sins, most genetic researchers are cautious not to overstate the role of genetic contributions to mental disorders and not to argue that purely biological treatments are sufficient.

A third reason for negative reactions to genetic theories is that they can imply racist or discriminatory practices. For example, Richard Herrnstein and Charles Murray's book *The Bell Curve* (1994) sparked a firestorm of criticism, not so much because of its claim that intellectual abilities were genetically influenced (a contention with which many psychologists agree), but because of its argument that genetic factors account for most of the measured IQ differences among different ethnic groups (a contention *not* endorsed by most psychologists). Another example is that, according to Ossorio & Duster, "when researchers seek genetic explanations for criminal behavior, they examine a flammable triumvirate of associations among genes, crime, and race. Like the phrenology of the 19th century [interpreting bumps on the skull to predict personality], findings of genetic markers that correlate with criminalized behavior will likely be only that—correlations and not explanations of the causes of violence or crime. The many causes of crime (or any human behavior) involve a wide range of forces, including genes that encode particular proteins and prenatal development" (2005, p. 126).

Scientists must always be concerned that a person's genotype not be used as a basis for deciding whether that person is hired for a job, given a promotion, accepted to a school, or stigmatized in any way. Behavioral genetics cannot explain whether any given individual's behavior is due to genes or environment; it can only estimate the average influence that both genes and environment exert on individual differences within a group of people. Furthermore, the average degree to which a behavior is inheritable *within one group* of people cannot explain behavioral differences *between groups*.

A simple example will illustrate this important principle. Height is clearly heritable. Assume that a large group of people are raised in a culture in which they are chronically underfed; on average, the taller parents in this culture will still have taller children. However, the children in this culture might be a few inches shorter on average than children raised in another culture where food is plentiful and diet is adequate. Height is genetically determined in both cultures, but the difference between children from the two cultures is not due to genetic differences. Likewise, even though height is linked to genes, a purely environmental intervention—i.e., better diet for the first culture—would be an effective treatment. Throughout this book, we often note the role of genetic influences on mental disorders, but this does not mean that environmental factors or interventions are unimportant. What factors in Nelson McGrath's environment might have contributed to his current disorder? (See Chapter 4.)

Thinking Critically

As noted later in this chapter, scientific methods have an important role to play in resolving controversies about abnormal behavior, including those about the role of genetics. The scientific method provides public, agreed-upon procedures for engaging in *critical thinking* about a dispute. You can use the seven steps to critical thinking discussed in Chapter 1 to examine the issue, and ask yourself the following questions:

- How could finding a common genetic vulnerability for various mental disorders help in the search for prevention or treatment strategies?
- What does it mean to say that genetics influence mental disorders but do not cause them?
- Should scientists continue to study the genetic causes of abnormality despite the potential pitfalls?

Psychological and Sociocultural Models

Biological factors are critical to understanding both normal and abnormal behavior, but they do not tell the whole story. Many mental disorders occur without any apparent biological reason. To understand abnormality fully, clinicians recognize that they must also consider the influence of psychological and sociocultural variables. These variables play a prominent role in psychodynamic, interpersonal, behavioral, cognitive, humanistic, and sociocultural theories of abnormality.

Psychodynamic Theories

Formal psychological models of abnormal behavior began with the work of Sigmund Freud, discussed earlier in the chapter. Freud's **psychoanalysis** is defined by the idea that both normal and abnormal behaviors are influenced by *unconscious forces*—especially sexual and aggressive instincts. From this perspective, even apparently innocent events, such as forgetting a friend's name or writing the word *date* instead of *data*, can be interpreted as expressing feelings of anger or lust of which the person is unaware. Freud believed that, because sexual or aggressive instincts often conflict with the moral demands and realistic constraints of society, each individual faces a lifelong struggle to find ways of expressing these instincts without suffering punishment, anxiety, or guilt. As a result, a hidden war among aspects of personality that represent instinct, reason, and morality rages within us. From the Freudian perspective, Nelson McGrath's behavior problems, like all other psychological disorders, result from this war, and they are best treated by psychoanalysis, a "talking cure" that is designed to help people become aware of, understand, and resolve their unconscious conflicts.

psychoanalysis: A theory of human behavior and a therapeutic approach based on the idea that both normal and abnormal behaviors are influenced by conflicting unconscious forces, especially sexual and aggressive instincts.

Connections

Does the sexual abuse of children have links to later abnormal behavior? For contemporary answers to this question, see Chapters 10 and 16.

Freud believed that the constant conflicts among different aspects of our selves can cause anxiety, guilt, and many other unpleasant emotional problems, especially if unconscious desires reach consciousness. Our mind unconsciously employs a variety of **defense mechanisms** to minimize these conflicts and keep them from reaching consciousness. One of the most important defense mechanisms is **repression**, a form of motivated forgetting by which threatening impulses are kept out of our conscious awareness.

defense mechanism: In psychoanalytic theory, psychological processes that operate unconsciously to protect a person from anxiety arising from unacceptable thoughts or feelings.

repression: A psychoanalytic defense mechanism that involves motivated forgetting of anxiety-arousing thoughts, images, or impulses.

Because his clients reported many sexual events from their childhoods, Freud initially believed that their problems stemmed from sexual molestation by parents or other relatives. Various forms of this idea enjoy empirical support (Trickett & Putnam, 1993), but within a few years of proposing this theory, Freud abandoned it (Masson, 1983). Instead, he claimed that these sexual recollections were not memories of real events, but of taboo sexual wishes and fantasies from childhood. Freud further believed that the symptoms of mental disorders were lingering surrogates of long-repressed sexual fantasies.

More specifically, here's how Freud would have viewed the chapter-opening case of Nelson McGrath. After introducing his structural model of the mind in 1923 (which has not received empirical support), Freud reenvisioned schizophrenia to be the result of a primary conflict between the self (ego) and the external world in which reality is altered by creating a world that is driven by a person's unconscious impulses. Moreover, the self's break from reality is motivated by an attempt to avoid painful events in external reality (Ridenour & Moehringer, 2014).

Contemporary Psychodynamic Theories

Many of Freud's colleagues and students—not to mention the general public—have been dissatisfied with his emphasis on the unconscious, his belief in childhood sexuality, his emphasis on male rather than female sexuality, his focus on instincts as the major motivation behind human behavior, and other aspects of his work. Consequently, several theorists have suggested revisions to Freud's theory of personality development and mental disorders. Some of these revisions involved a change in emphasis; others, such as Carl Jung's (1875–1961), altered or even rejected many of Freud's main principles. **Ego analysts** assign a larger role than Freud did to conscious personality factors and see the ego as an autonomous force, not just a mediator of unconscious conflicts. Erik Erikson (1946), for

ego analyst: A psychoanalytically oriented theorist who differs from Freud by assigning more importance to conscious personality factors.

Photo courtesy of Brian Burke

Sigmund Freud (1856–1939) was the founder of psychoanalysis, the first comprehensive psychological theory of abnormal behavior. This is the house where Freud lived with his daughter Anna (1895–1982) after fleeing Austria to escape the Nazis during World War II.

example, proposed eight stages of *psychosocial* development that stress an individual's interactions with others rather than conflict over instincts. At each stage, the person faces a social crisis that is either resolved or left partly unfinished.

One of the more important modern variants on psychoanalysis is **object relations theory**, the notion that the adult personality is based on the nature and quality of interpersonal relationships, especially in the early interactions between infant and caregiver. If these interactions do not allow infants to feel pride in themselves or to develop a secure sense of self-esteem, for example, they cannot achieve a stable sense of self; the result will be disturbed behavior and personality in childhood and adulthood.

Psychodynamic Diagnosis and Treatment

The primary goal of psychoanalysis is to help clients gain insight into the unconscious origins of their behavior so that they can eventually control their impulses through a strengthened self/ego. Freud believed that clients gain this insight through the therapist's skillful use of techniques such as *free association* ("say whatever comes into your mind without trying to control it") as well as the *interpretation* of dreams, slips of the tongue, and everyday mistakes that might reveal a hidden motive. The most important technique in the modern version of this treatment is *transference*, in which clients, responding to the therapist, relive emotional reactions that are actually reenactments of early emotional conflicts with their parents. Because transference reveals how past conflicts are still influencing their lives, clients can learn to recognize the importance of these conflicts and then gradually begin to resolve them. Therefore, the psychodynamic therapist first allows the transference to emerge and then helps clients understand what it means for their current lives. Object relations therapists, for instance, use the therapeutic relationship to repair the psychological defects and insults that clients suffered as very young children. The goal is not so much to understand the real or imagined traumas of childhood as it is to give clients a second chance at forming the secure and healthy relationships that they missed in childhood.

object relations theory: A modern variant of psychoanalytic theory that explains how adult personality is based on the nature and quality of early interactions between infants and their caregivers.

From the interpersonal perspective, treatment of disordered behavior involves helping people to develop more flexible, less extreme ways of relating to others. Take, as an example, the antisocial client whose style of interaction is to be hostile and dominant toward everyone. This style "invites" others, including therapists, to be hostile and submissive in return. The interpersonal therapist would try to act in a consistently friendly and dominant manner, thereby forcing the antisocial client to give up this coercive interpersonal strategy. Interpersonal therapists also help clients try out new behaviors in the safety of therapy sessions and then encourage them to use these new behaviors with other people.

When conceptualizing client problems, psychodynamic therapists might use the *Psychodynamic Diagnostic Manual*, 2nd edition (*PDM-2*; Lingiardi & McWilliams, 2017) as a supplement to the *DSM-5*. The *PDM-2* is designed to describe an individual's functioning on a continuum and assesses personality organization, style, and function (Axis P), overall mental functioning (Axis M), and clinical symptoms as well the patient's experience of symptoms (Axis S; Lingiardi & McWilliams, 2015).

Behavioral Theories

Psychoanalytic theories of disorder grew out of 19th-century therapists' efforts to treat disturbed individuals. During the first half of the 20th century, several alternative psychological theories emerged that sought to explain abnormal behavior in terms of the laws of learning being mapped out by academic psychologists' laboratory research on human and

animal behavior. These **behavioral theories** (also called **learning theories**) are based on the assumption that genetic and biological factors provide an individual's basic physical structures and tendencies but that specific behaviors are shaped by people's experiences with the world. Behaviorists place special emphasis on how people *learn* to behave as a result of these experiences.

behavioral theory: A theory of behavior that explains how normal and abnormal behaviors are shaped by people's experiences with the world, and how people learn to behave as a result of these experiences.

learning theories: Explanations of how new behaviors are acquired, retained, and used.

Behavioral theorists differ among themselves primarily in terms of the learning processes they emphasize. *Operant* theorists stress the functional relationships between behavior and its environmental consequences, especially rewards and punishments. Others concentrate on *classical* conditioning and the associations that develop between stimuli and responses, such as between being bitten by a dog and later developing a fear of dogs. *Cognitive-behavioral* theorists see behavior as guided not only by consequences and associations, but also by the thoughts and expectations people acquire as they grow. They emphasize differences in the way people process and understand information about their lives.

Operant Conditioning

Edward L. Thorndike (1874–1949) was an American psychologist who proposed that learning follows the *law of effect:* Behaviors followed by pleasurable outcomes are more likely to be repeated, whereas behaviors that lead to unpleasant effects are less likely to be repeated. Expanding on this basic idea, psychologist B. F. Skinner (1904–1990) argued that it is not necessary to focus on unconscious—or even conscious—mental activity to understand human behavior because all behavior is learned via **operant conditioning**. In this model, if we want to explain why someone does something, we need only examine the functional relationships between their behavior and what comes before (*antecedent conditions*) and after it (*consequences*). According to Skinner, the act of ordering a pizza can be explained by noting the number of hours since the person last ate and whether pizza-ordering behavior has been rewarded in the past. There is no need to invoke the mentalistic concept of "hunger."

operant conditioning: A form of learning in which the consequences of a behavior influence the probability of its being performed in the future.

Behavior is strengthened through **reinforcement**—that is, when positive consequences follow the behavior. Positive consequences can take two forms: the appearance of something pleasant, such as food or praise, or the disappearance of something unpleasant, such as an annoying sound. Being paid for shoveling a snowy sidewalk is an example of the first form of reinforcement, called *positive reinforcement*; getting rid of a headache after taking a pain reliever illustrates the second kind of reinforcement, called *negative reinforcement*. Any type of reinforcement makes behavior such as shoveling snow or taking aspirin *more* likely to occur on appropriate occasions in the future. Thus, some behaviorists might suggest that Nelson McGrath's aversion to young women was based on negative reinforcement because the act of avoiding them reduced his anxiety.

reinforcement: The operant learning process that increases the frequency of a preceding behavior.

Behavior is *less* likely to occur when it is followed by negative consequences; this process is called **punishment**. Negative consequences can take two forms: the appearance of something unpleasant, such as pain, or the loss of something valued, such as privileges. Behavior can also be made less likely to occur through **extinction**, or the absence of *any* notable consequences. Extinction is at work when we give up calling someone after repeatedly getting no answer or when we continually expose ourselves to a feared situation but the event we are afraid of never happens.

punishment: The operant learning process that decreases the frequency of a preceding behavior.

extinction: The decrease in a behavior caused by the absence of reinforcers for that behavior.

Often, behavior is not reinforced or punished every time it occurs. Employees, for example, may be paid once a month, not after each task they do. Skinner noted that such *schedules of reinforcement* often hold the key to understanding certain aspects of behavior. Intermittent reinforcement results in remarkably persistent behavior. Note how long some people will gamble or play golf or video games, even though the rewards may be infrequent. Changing schedules of reinforcement have been employed as part of the behavioral treatment for individuals with autism spectrum disorder (Murray & Healy, 2013).

Classical Conditioning

Another behavioral theory of abnormality has its roots in the work of Ivan Pavlov (1849–1936). Pavlov and other Russian scientists in the early 20th century believed that behavior was based on reflexes that were automatically elicited by the environment. In his famous

experiments with dogs, Pavlov repeatedly paired an *unconditioned stimulus* such as food, which elicits a reflexive (or *unconditioned response*) such as salivation, with a neutral stimulus such as a tone. Eventually, the neutral stimulus became a *conditioned stimulus* that elicits salivation as a *conditioned response*; the dogs learned to salivate in response to the tone. This process of **classical conditioning** is depicted in Figure 2.3.

classical conditioning: A form of learning in which a formerly neutral stimulus is able to elicit a new response. This learning occurs after repeated associations between the neutral stimulus and an unconditioned stimulus that automatically elicits a response that resembles the learned one.

Behavioral psychologists soon began to apply the laws of classical conditioning to the study and treatment of abnormal behavior. The most famous early example of this work was the case of "Little Albert," first reported by John Watson and Rosalie Rayner (1920) and remerging when the boy was identified as possibly being Douglas Merritte (1919–1925), who died a few years after the case study from hydrocephalus (Fridlund et al., 2012). Current psychological detective work indicates that this study may actually have been more of advertisement for Watson's lab than good science and that Albert B. may, in fact, have been a composite of two different baby boys (Beck, 2014). In any case, Watson's lab work demonstrated that you could teach a child to develop a fear of a previously neutral object. "Albert" initially interacted with a white laboratory rat without fear, but the researchers made a loud sound behind Albert's back by striking a suspended steel bar with a hammer whenever he touched the rat. Little Albert responded to the noise by crying and showing fear. After several such pairings of the two stimuli, Albert was again presented with only the rat. After about a week, Albert did indeed show fear whenever he saw the rat.

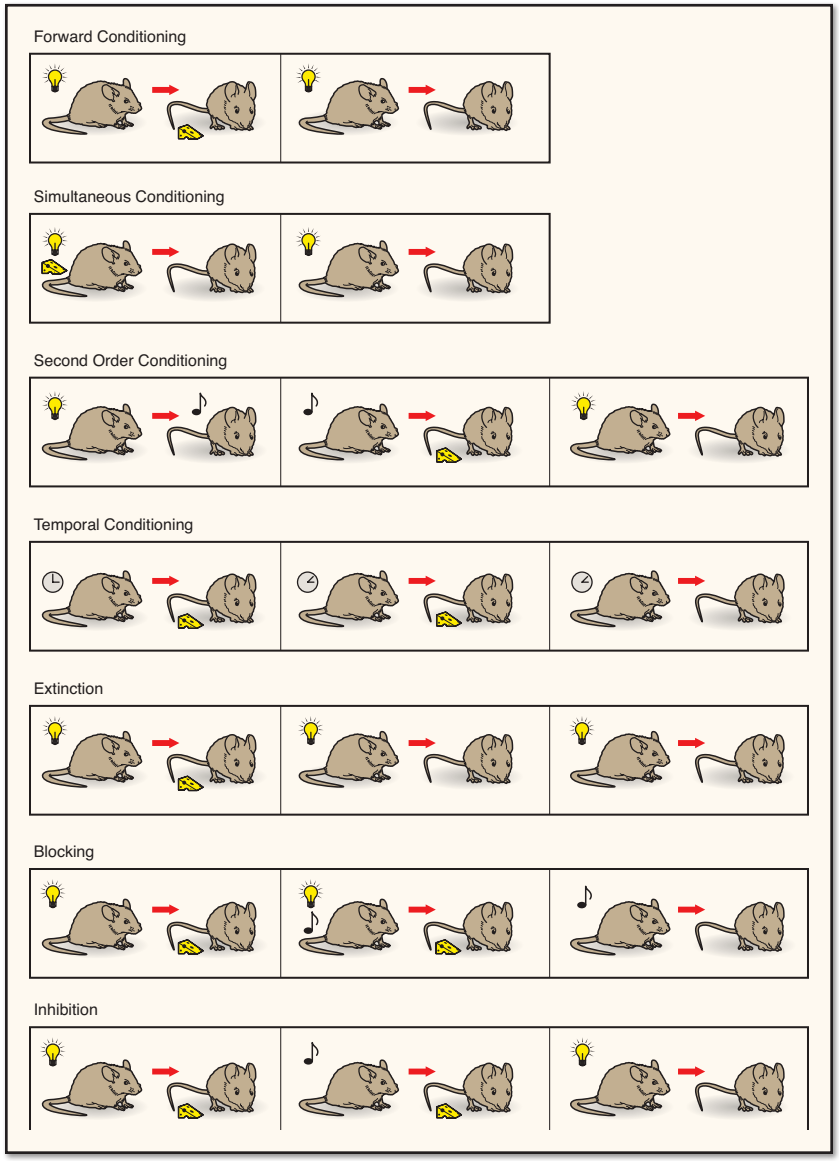


FIGURE 2.3 Pavlovian Conditioning

In forward classical conditioning, the bell or light (the neutral stimulus) is presented just before food (the unconditioned stimulus) is presented to the animal. After several pairings, the bell or light becomes a conditioned stimulus and elicits a set of responses that resemble the unconditioned responses that the food alone elicited (i.e., salivation in preparation for eating). Other classical conditioning processes are also illustrated here, such as extinction, in which the bell or light is presented without any food repeatedly so that the conditioned response is reduced. Behavioral psychologists believe that certain phobias develop through classical conditioning and can therefore be treated by learning principles such as extinction.

Behavioral Treatment

A few years after the case of "Little Albert" was reported, Mary Cover Jones used classical conditioning to *reduce* children's learned fears by pairing the feared stimulus (such as a rabbit) with a pleasant activity such as eating (Jones, 1924). Researchers have applied both classical and operant conditioning methods to a wide range of problems, including phobias, substance use disorders, sexual disorders, and attention-deficit/hyperactivity disorder (e.g., Günzler & Berner, 2012; Sonuga-Barke et al., 2013). By the 1960s, an arsenal of new behavioral techniques had been developed and tested for therapeutic use (Eysenck & Rachman, 1965; Wolpe, 1958). Table 2.2 describes some of these frequently used treatments.

Connections

For what mental disorders are behavioral treatments especially useful? Read Chapter 3 to see how effective they are in treating childhood disorders.

Behavioral treatments, also known as **behavior therapy** or **behavior modification**, are aimed at helping clients decrease specific maladaptive behaviors and increase adaptive ones (Bellack et al., 1990). The focus of behavior therapy is on the here and now. Less attention is paid to early psychological history than to the current skills the client does or does not have and to the environmental conditions that serve to sustain problem behaviors. In brief, behavior therapists use treatment techniques that are derived from the same basic laws of learning that led to these problem behaviors in the first place. These interventions, which are often combined with cognitive techniques discussed in the next section, are aimed at specific changes that can be quantitatively measured, such as a reduction in anxiety. For Nelson McGrath from the chapter-opening case, behavioral

behavior modification (behavior therapy): Behavioral treatments based on learning theory that are aimed at helping people decrease specific maladaptive behaviors and increase adaptive behaviors.

TABLE 2.2 Common Behavior Therapy Treatment Techniques

Behavior Therapy Technique	How It Is Used
Systematic desensitization	Reduces anxiety by having clients visualize a graded series of anxiety-provoking stimuli (e.g., climbing higher and higher on a ledge for someone who is afraid of heights) while maintaining a relaxed state.
Exposure	Reduces anxiety by having clients maintain contact with anxiety-provoking stimuli until the fear dissipates. This is the most important principle to address in the treatment of phobias and other anxiety disorders.
Social skills training	Teaches clients how to interact more confidently and competently with others. This is widely used with people who have social anxiety disorder or autism spectrum disorder.
Aversive therapy	Discourages unwanted behavior by pairing it with noxious stimuli such as electric shock, nausea, or imaginary aversive events. Antabuse (disulfiram), a medication that causes people to feel sick after consuming alcohol, is an example of this treatment principle.
Time out	Extinguishes unwanted behavior by temporarily removing the person, usually a child, from a setting where reinforcers (rewards) exist. This is a key component of most parenting training programs.
Response cost	Decreases an unwanted behavior by removing a reward or privilege following the behavior; fines are an example. This is often employed within token economy programs, which are common in psychiatric hospitals; for example, if the patient screams all night and wakes up everyone on the floor, they might lose tokens and be unable to buy treats the next day.
Stimulus control therapy	Attempts to change someone's associations with that specific stimulus so that it no longer guides their behavior. For instance, with insomnia, this principle is used to break negative associations with the bed as a place of frustration (i.e., get up and out of bed when you cannot sleep).

treatment might focus on increasing his ability to be around young women, take his medications, and eat a variety of foods, perhaps first by systematic desensitization and later by in vivo (real-world) exposure to these feared objects.

Cognitive Theories

To many observers, operant or classical conditioning explanations of human behavior and mental disorders seem incomplete because they pay too little attention to what people *think* about the world and themselves. By the 1970s, psychologists who agreed with this critique had developed cognitive, or social learning, theories of development and behavior modification. These theories were actually part of a larger movement known as the cognitive revolution that began to sweep through all of psychology in the late 1960s and gained momentum with the invention of computers.

According to **cognitive** and **social learning theories**, learning occurs not only as a result of operant and classical conditioning, but also through the way people process information about the world—what they attend to, perceive, think about, and remember.

cognitive theory: A theory that explains behavior primarily in terms of the way people process information about the world—what they attend to, perceive, think about, and remember.

social learning theory: A theory that explains how behavior is learned through observation (vicarious learning), direct experiences, and cognitive processes such as expectancies.

observational learning: In social learning theory, the view that behavior develops as a result of observing other people's behavior and its consequences.

self-efficacy: A person's belief that he or she can successfully perform a given behavior.

appraisal: An evaluation of our own behavior and the behavior of others.

attribution: An individual's explanation for behavior or other events.

Important Cognitive Processes

One prominent social learning theorist, Albert Bandura, emphasized **observational learning** (Bandura, 1969, 1986, 2011), still under study today (Rak et al., 2013). In Bandura's view, behavior develops not only through first-hand conditioning, but also as a result of observing other people—known as *models*—and the consequences of their behavior. For example, if a preschooler observed a parent repeatedly showing a fear of snakes, avoiding outdoor activities whenever there might be a chance of encountering snakes, and refusing to read about or view scenes containing snakes, the child might develop a phobia of snakes. According to Bandura, observational learning can stimulate new responses, inhibit or disinhibit already learned responses (as when a person violates a "Don't Walk" sign after watching someone else do so), and prompt behavior (as when people in an airport line up at an unattended check-in counter after a single prankster stands in front of it).

Expectancies also play a major role in social learning theories. One type of expectancy is **self-efficacy**, the belief that one can successfully perform a given behavior, such as meeting new people at a party. Bandura (1977, 1982, 1986, 2012) believes that overt behavior is controlled by an individual's perceived self-efficacy: Your chances of trying something depend directly on how confident you are in your ability to do it. Other important cognitive processes include appraisals, attributions, and long-standing beliefs or assumptions.

Appraisals are individuals' evaluations of their own behavior and the behavior of others. Appraisals often precede and influence emotional reactions automatically and outside of a person's awareness. According to psychiatrist Aaron Beck (1976), individuals who always evaluate their performance as inadequate will interpret compliments as a sign that others are merely being polite. People who see the world in such a negative light also tend to see themselves as worthless and inadequate and are predisposed to mental disorders such as depression (Ghahramanlou-Holloway et al., 2012).

Photo courtesy of Brian Burke

Across different cultures, children pay close attention to and model the behavior of their parents. They are able to imitate a wide range of behaviors precisely.

Attributions are explanations for behavior and other events. They have three key characteristics: (1) internal—whether we see the cause of an event as due to something about ourselves or something about the environment; (2) stable—whether we see the cause as enduring or temporary; and (3) global—whether we see the cause as specific to a given situation or affecting all situations. Thus, a student who explains having failed a test by saying "it was too hard" is employing an external, temporary, and specific attribution. On the other hand, the statement "I have always been stupid" reflects an internal, stable, and global attribution, which also increases the likelihood of that person developing depression (Abramson et al., 1978). In addition, more "extreme"

(i.e., excessively pessimistic or optimistic) attributions predict a greater likelihood of developing an episode of mood elevation (mania) in individuals with bipolar disorder (Stange et al., 2013).

Albert Ellis (1962) emphasized the role of enduring negative expectancies and especially what he calls *irrational beliefs* in the development of behavior disorders. These irrational beliefs are often associated with "must" or "should" statements (e.g., "I must do everything right" or "everyone should like me") that create unrealistically high standards that leave a person doomed to failure or disappointment and render them vulnerable to mental disorders, especially anxiety.

Connections

How do cognitive therapists target the distortions underlying anxiety disorders and depression? For answers, see Chapters 6–9.

Cognitive Therapies

Cognitive therapists help clients change maladaptive behaviors by evaluating their thinking processes and modifying the way they think about or interpret themselves, other people, and the world. They assume that psychological problems are largely caused by irrational or distorted thinking. Correcting these misconceptions should therefore be therapeutic. Cognitions about the self—about a person's abilities or the degree to which a person is liked by others—are particularly important therapy targets because such cognitions affect how people react to success and failure in their lives.

For example, Beck's original version of **cognitive therapy** was developed to help depressed clients correct cognitive distortions to which they are prone—pessimistic, self-deprecating, catastrophizing beliefs about themselves and their future. Whereas the initial research on Beck's therapy focused on its use in the treatment of depression (Dobson, 1989; Robins & Hayes, 1993), his methods have also been applied to many other mental disorders, including anxiety, personality disorders, substance use problems, and even schizophrenia (Beck et al., 1990; Grant et al., 2013; Linehan, 1993). Cognitive therapists teach clients to identify these cognitive distortions and then ask them to examine whether there is any valid evidence for their negative views. Ideally, clients discover that no such evidence exists or that they have been exaggerating the importance of negative events or the significance of potential threats—a process called *catastrophizing*, which plays a prominent role in anxiety disorders (Ghahramanlou-Holloway et al., 2007). Clients are then helped to develop more realistic thoughts to substitute for their pessimistic beliefs. The next step is to complete "homework assignments" that require clients to practice their new thinking strategies in the situations that have led to their strongest distortions and most problematic emotional reactions (Cammin-Nowak et al., 2013). As previously noted, many cognitive strategies are paired with behavioral interventions as our cognitions are often directly related to our behaviors and, ultimately, our feelings.

cognitive therapy: A therapy that uses learning principles to alter maladaptive thoughts and beliefs that accompany behavior problems.

In dealing with generalized anxiety disorder, for example, cognitive therapists seek to alter clients' beliefs that even relatively minor negative events are major threats, whereas cognitive treatment of obsessive-compulsive disorder might focus on exploring the belief that chaos and danger will occur unless the client performs elaborate mental or behavioral rituals (Clark & Beck, 2010).

The core principles of Albert Ellis's **rational emotive therapy (RET)** are as simple as ABC (Ellis, 1973; Ellis & Ellis, 2014). Ellis believes that people suffer anxiety, depression, and other psychological problems when activating events (A) are followed by upsetting emotional consequences (C). However, he says that A does not actually cause C. Instead, emotional consequences are the result of problems in how a person *thinks* about activating events—in other words, in their personal *belief system* (B). Specifically, Ellis says that anxiety, depression, and other problems are the result of beliefs that are extreme, irrational, and self-defeating. This therapy challenges these irrational beliefs and helps clients replace them with more logical thoughts. Shakespeare anticipated RET when he had Hamlet say that "there is nothing either good or bad but thinking makes it so." For Nelson McGrath in the chapter-opening case, cognitive treatment would focus on first identifying his irrational thoughts, such as "I have dots/spots on my skin," "I must eat all vegetarian food to protect myself," and "I should not take the pills that I am being prescribed or something terrible will happen" (catastrophizing). With the help of the therapist

rational emotive therapy (RET): Cognitive therapy developed by Albert Ellis based on the theory that psychological problems are caused by irrational thinking; the therapy challenges irrational beliefs and helps clients replace them with more logical beliefs.

and through homework, Nelson would begin to challenge the evidence for these beliefs, with the ultimate goal of replacing them with more accurate ones. As you will see in the coming chapters, specific types of cognitive distortions and irrational beliefs can lead to or exacerbate many different mental disorders.

Humanistic and Positive Psychology Theories

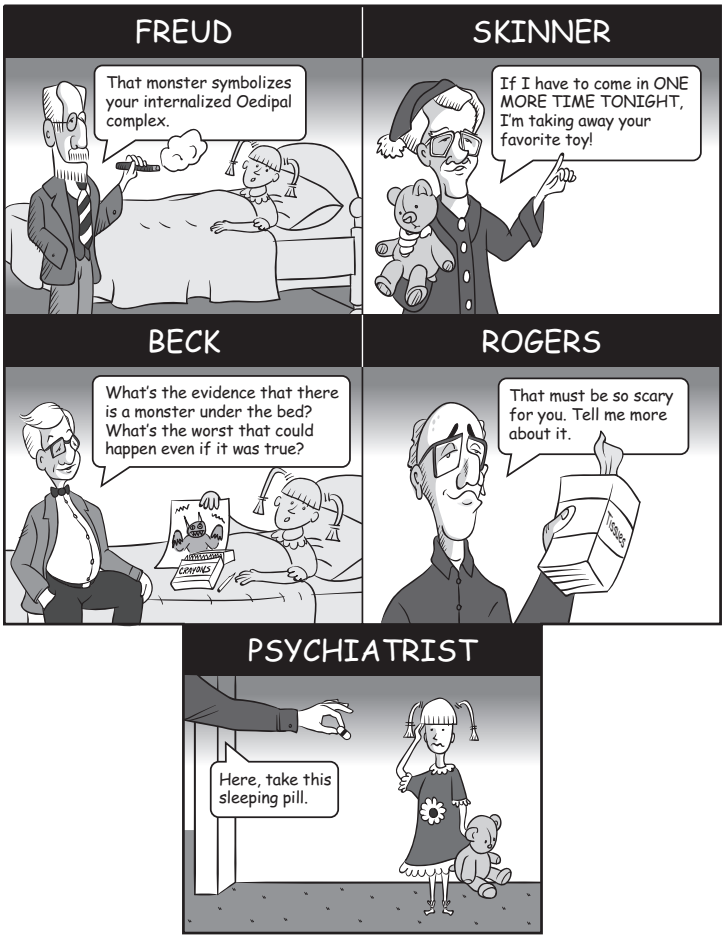
humanistic model: Any of several theories of human behavior that explain how behavior is influenced by each person's unique perception of the world, rather than by instincts, conflicts, or environmental consequences.

A third broad psychological approach to abnormality, known as the **humanistic model**, asserts that human behavior is determined not by instincts, conflicts, or environmental consequences, but by each person's unique perception of the world at any given moment. Either these perceptions allow the person to live an emotionally authentic and behaviorally effective life, or they constrain the person to a life that is based on false assumptions and excessive desires to meet others' expectations.

Carl Rogers' Self Theory

Carl Rogers (1902–1987) believed that people have an innate drive toward personal growth that he called *self-actualization*. And he saw all human behavior, normal and abnormal, as a reflection of the individual's efforts at self-actualization in the world the person perceives. Thus, aggression might be seen as seeking personal goals in a world that must be conquered, whereas speech anxiety might reflect personal growth stunted by the perceived threat of negative evaluations from others. Even Nelson McGrath's bizarre ideas would be viewed not as illness but as his attempt to cope with a world that he perceives as horribly dangerous.

How different perspectives deal with a common childhood complaint of monsters under the bed



Cartoon by Brian L. Burke; illustrated by Katey Redmond

The cartoon demonstrates how different models might approach the problem of a child afraid monsters: looking for a deeper cause (Freud), using operant conditioning to change the behavior (Skinner), using Socratic questioning to examine the cognitions (Beck), empathizing with the fear (Rogers), or prescribing medication (psychiatry).

According to Rogers (1951, 1962, 2007), people value the positive regard of others so highly that they will seek it even if it means thinking and acting in ways that are *incongruent* with their own experience and even if it thwarts self-actualization. This tendency is encouraged, beginning in childhood, by *conditions of worth*, circumstances in which children get positive regard from others *only if* they display certain behaviors and attitudes. These conditions, first set up by parents, family, and others, eventually become part of the person's belief system in a manner similar to Freud's concept of superego or the Beck/Ellis notion of irrational thoughts.

Rogers said that when people try to please others at the expense of personal growth, they become uncomfortable with the incongruity, and they try to reduce their discomfort by distorting reality. For example, men whose early conditions of worth made crying or fearfulness unacceptable may distort their emotional experience by denying genuine feelings of sadness or fear (and perhaps ridiculing these feelings in others). This could lead to men being diagnosed more often with substance use or anger issues than with depression. According to Rogers, the greater the discrepancy between real feelings and self-concept, the more severe the resulting problems. He believed that a key factor of therapeutic change was *unconditional positive regard*, which would allow a client to present fully as their authentic self. What if a counselor accepted Nelson McGrath as he is?

Humanistic Therapies

Humanistic therapists view therapy as an opportunity for clients to discover how they have allowed themselves to become restricted or hemmed in by the expectations of others. As a result, they may have stopped growing and do not take full responsibility for their lives. The therapist's main task, therefore, is to create a context in which clients feel free to explore their potential and to express a full range of emotions. In Rogers' (1951, 2007) client-centered therapy, he details what he views as the "necessary and sufficient" conditions for therapeutic change, including the therapist acting in a genuine, nonjudgmental, and empathic manner toward the client so that the client can freely express their concerns.

In this model, clients are not diagnosed, evaluated, or given advice; rather, they are valued as unique individuals, no matter how problematic their behavior might be. Instead of judgment, the therapist strives for *empathic understanding* by trying to see the world as the client sees it. Therapists communicate **empathy** by reflecting what they perceive of the client's feelings. Often, reflection takes the form of rephrasing the client's statements in terms that show that the therapist has recognized the emotions that underlie the words. Finally, the therapist must be *genuine* in relating to the client; all actions and feelings must be *congruent*. Being congruent and genuine requires therapists to say what they feel, tactfully, but free from hypocrisy and pretense. Ideally, once clients begin to experience, perhaps for the first time, a relationship in which someone offers nonjudgmental support, empathy, and genuineness, their confidence will increase and their progress toward self-actualization should resume.

empathy: The ability to appreciate and share the feelings of another person.

Current treatment applications emerging from humanistic psychology (which later developed into positive psychology) include the Comprehensive Soldier Fitness Program, which is designed to build **resilience** and enhance performance of U.S. military personnel and their families. The program does this by providing training and self-development tools so that members of the military are better able to cope with adversity, perform better in stressful situations, and thrive in life (Seligman & Fowler, 2011). Further, positive psychology interventions have been found to be promising for autism spectrum disorders (Zager, 2013), substance use disorders (Krentzman, 2013), and even physical diseases such as breast cancer (Casellas-Grau et al., 2014).

resilience: The ability to solve problems effectively, cope with stressors, and overcome adversity.

For Nelson McGrath in the chapter-opening case, his humanistic therapist would first and foremost seek to understand his worldview without judging him, and positive psychology could provide him with strategies for building on his current strengths or cultivating happiness-inducing qualities such as gratitude (e.g., by writing a letter of appreciation to someone in his life), resilience (e.g., by determining how he might be able to get through this harrowing and stressful skin dot episode), or forgiveness (e.g., by working to forgive those who may have harmed him in the past).

Sociocultural Models

All the models discussed so far focus on internal dysfunctions, conflicts, deficits, or misuse of strengths that ultimately result in abnormal behavior. They share an assumption that something *inside* a person is disturbed and needs to be repaired or rebuilt. Without necessarily denying the role of such factors, **sociocultural models** of abnormality emphasize *external* factors, such as harmful environments, adverse social policies, powerlessness, and cultural traditions as causes of mental disorders. It is a perspective describing people's behavior and mental processes as shaped in part by their social and/or cultural contact, including race, gender, and nationality (Sanderson, 2010). Because it highlights the need to view people's behavior in relation to the sociocultural environment in which it occurs, this approach is sometimes referred to as the **ecological model** (Rappaport, 1977). In the ecological model, human behavior is influenced by intrapersonal factors (self-efficacy, motivation, personality, genes, etc.), interpersonal factors (relationships), organizational factors (work/school environment, churches, etc.), community factors (resources, programs, etc.), and societal/cultural factors (beliefs, laws, stigmas, etc.).

sociocultural models: Explanations of mental disorders that emphasize external factors, such as harmful environments, unfortunate social policies, lack of personal power, and cultural traditions.

ecological model: Sociocultural model that explains human behavior through five main factors (intrapersonal, interpersonal, organizational, community, and societal/cultural).

Some proponents of these models see social and cultural forces as being so dominant that they advocate for systemic interventions, not simply individual treatment.

Traces of sociocultural models can be found throughout history, especially during the moral treatment era in the 1800s discussed earlier in the chapter, when evidence about the potentially harmful effects of living in an industrializing society began to be considered. The sociocultural model would suggest, for example, that a person such as Nelson McGrath may have developed his bizarre and dysfunctional behaviors largely as a result of living in a complex, stressful culture.

Epidemiological studies, which look at the patterns and frequency of disorders in certain populations, suggest that the nature and frequency of abnormal behavior are related to environmental, socioeconomic, ethnic, and cultural variables. For example, in the United States, where aggressive behavior is accepted and often encouraged, particularly among boys, problems involving poor control of behavior, such as disobedience and excessive attention-seeking, are more frequent than in societies such as Thailand or Jamaica, where respect for parental authority and submissiveness are promoted. In Thailand and Jamaica, however, there are higher rates of "overcontrol" problems, such as withdrawal and physical complaints (Lambert et al., 1989; Weisz et al., 1987). Because of such widespread cultural differences, even the assessment scales and measures used to detect disordered behavior (see Chapter 1) need to be different (Weisz et al., 2006). Sociocultural explanations for such differences in disorder patterns include social causation or social drift, social relativism, and social labeling.

Social Causation or Social Drift

social causation theory: A theory suggesting that stress, poverty, racism, inferior education, unemployment, and social changes are sociocultural risk factors leading to mental disorders.

It could be that social, environmental, or cultural hardships put people at greater risk for a disorder, thereby increasing the rates of disorder in certain populations. This **social causation theory** suggests that stress, poverty, racism, inferior education, unemployment, and social changes are sociocultural risk factors for abnormal behavior.

For example, children who are chronically exposed to high levels of violence suffer higher rates of disordered behavior (Osofsky, 1995). Scientific evidence shows that early life stress in general triggers, aggravates, maintains, and increases the recurrence of psychiatric disorders (Carr et al., 2013) as well as other physical health problems (Felitti et al., 1998). As an example, Helzer et al. (1990) assessed rates of alcohol addiction among adults in St. Louis, Missouri; Edmonton, Alberta (Canada); Puerto Rico; Taiwan; and Korea. Alcohol consumption tends to be more discouraged by cultural values in most Asian countries than in most Western communities. However, in contrast to Taiwan, heavy consumption is encouraged in Korea, especially among men, who often compete with one another to see who can drink the most. In Edmonton, at the time of the research, stress arising from unemployment and an unpredictable economy was especially high. As shown in Table 2.3, the results are consistent with predictions derived from social causation theory. The highest overall rate of problem drinking was in Edmonton, where economic adversity was greatest, and the lowest rate was in Taiwan, where excessive drinking is culturally discouraged.

social drift hypothesis: Also called the *social selection hypothesis*, it explains higher rates of mental disorders among lower socioeconomic groups as the consequence of disordered people sinking to lower socioeconomic levels because of their disorders.

An alternative explanation of social and cultural differences in psychological disorders is that people with certain mental disorders gravitate to certain locations or status levels within a culture. This **social drift**, or *social selection*, **hypothesis** explains higher rates of some disorders among lower socioeconomic groups as the inevitable consequence of disordered people falling to lower socioeconomic levels *because* of their disorders (Eaton et al., 2010). The fact that mental disorders are associated with different demographic and social factors is consistent with social causation, social drift, or an interaction between both of these explanations. Scholars continue to debate the issue of which explanation is better (e.g., Eaton et al., 2010; Faris & Dunham, 1939; Robins & Regier, 1991), generally concluding that both drift and causation interact to contribute to mental disorders.

Social Relativism

A third explanation of social and cultural differences in abnormality holds that disorders are defined or diagnosed in different ways in different places by different groups. This

TABLE 2.3 Lifetime Percentage Rates of Alcohol Abuse by Gender in Five Countries

	Alcohol Abuse (%)		
	Men	*Women*	*Total*
St. Louis, Missouri	16.1	3.0	9.2
Edmonton, Alberta, Canada	18.5	3.9	11.3
Puerto Rico	15.7	1.6	8.2
Taiwan			
Metropolis	2.9	0.1	1.5
Townships	3.2	0.2	1.8
Korea	20.4	1.0	10.4

Source: Based on Helzer et al., 1990.

social relativism viewpoint involves the idea that the same standards and definitions of abnormal behavior do not apply in all cultures. For example, a clinician who is not sensitive to a client's cultural values and traditions can mistake their religious beliefs or averting of the eyes for delusions, inordinate shyness, or depression.

social relativism: The idea that the same standards and definitions of abnormal behavior do not apply in all cultures.

Some forms of abnormality are found only in certain cultures and are covered as **culture-bound syndromes** in the *DSM-5* (see Chapter 1). For example, in *koro*, a condition seen only in Southeast Asia, a man believes his penis is about to retract into his stomach and kill him. *Windigo* is an anxiety disorder among North American Indians in which victims believe that monsters will possess them and turn them into homicidal cannibals. Anorexia nervosa, an eating disorder that is discussed in Chapter 12, is most common in Western societies that place a premium on thinness as a criterion for physical beauty. Immigrants to these societies appear to be at increased risk for the disorder (compared to if they never left their countries of origin) as they adopt the Western aversion to larger body sizes (Ritenbaugh et al., 1996).

culture-bound syndrome: A pattern of abnormal behavior that appears only in certain localities or cultures.

Even when the basic nature of a disorder is similar across cultures, its predominant symptoms may vary a great deal from one culture to another. For example, the content of hallucinations and delusions tends to vary among people with schizophrenia, depending on the society in which they live (Al-Issa, 1977). Even the pattern of course and functioning for these people differs based on where they live—for schizophrenia, the 20-year prognosis is distinctly better in developing nations than it is in more developed countries (Thara, 2004).

Social Labeling

The most extreme version of cultural relativism suggests that mental disorders are merely labels applied to behavior that is unpopular or troubling at a given time or place, as discussed in Chapter 1. A prominent advocate of this position was Thomas Szasz (1961, 1986), an American psychiatrist who maintained that mental disorders stem chiefly from problems in living that are due to economic hardships, political oppression, or a crisis in personal values. Labelling someone like Nelson McGrath from the chapter-opening case as having an "illness" or "disorder," according to Szasz, makes things worse as it subjects the victim to the stigma of being perceived as "mentally ill" and therefore not a fully responsible member of society (see also Sarbin, 1969; Scheff, 1966).

Social labeling theory forces us to think seriously about the possible dangers of labeling problematic behavior as a disorder or illness. Labels can be demeaning, often producing prejudice and discrimination, and even making it more likely that people will behave

bgrocker/Shutterstock

On May 25, 2020, George Floyd died while in police custody after Officer Derek Chauvin kneeled on his neck for over 9 minutes. Floyd's death sparked protests throughout the United States (and worldwide) about police brutality and biases in policing. These protests highlighted how a systemic issue may negatively impact the mental health of people of color.

in accordance with the label. However, most mental health professionals see social labeling theory as incomplete for two reasons: (1) it fails to explain how problematic behaviors begin, and (2) it ignores the fact that people's problems tend to persist and worsen even if they are not officially labeled and that these problems are often relieved following accurate diagnosis and treatment.

Social Justice

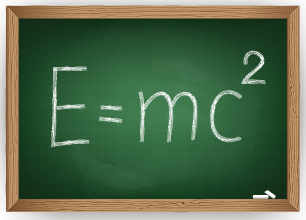
As sociocultural models gain prominence in psychology, the role of social justice has emerged as a major force within the field (Fleuridas & Krafcik, 2019). A wide range of research now documents the negative effects of racism, discrimination, poverty, classism and other inequities on overall mental health (i.e., Carter et al., 2017). Building off feminist and multicultural therapies that acknowledge the role of power, privilege, and oppression in the manifestation of psychological disorders, the social justice movement expands the role of psychologists, counselors, and social workers into advocates rather than merely treatment providers. In 2020, both the death of George Floyd and the differential impact of COVID-19 in communities of color opened discussions about the need for systemic, social justice–oriented reform.

The Role of Power

Power Threat Meaning Framework (PTMF): A nondiagnostic conceptual system that explains symptoms as rational and understandable responses that help us cope with environmental threats.

The social justice movement in psychology seeks to understand issues of power and privilege in the development of mental health struggles. One model, the **Power Threat Meaning Framework (PTMF)**, conceptualizes mental health symptoms as how we respond to both internal and external challenges (Johnstone & Boyle, 2018). The PTMF is a nondiagnostic system that explains symptoms as rational and understandable responses that help us cope with environmental threats, including systems of oppression.

The PTMF moves from the question of "what is wrong with you?" to four main questions that allow the client to explore the impact of power differentials in their lives. The four key questions of this framework include (Johnstone & Boyle, 2018):



MAPS - Attempted Answers

- "What has happened to you?" (How is power operating in your life?)
- "How did it affect you?" (What kind of threats does this pose?)
- "What sense did you make of it?" (What is the meaning of these situations and experiences?)
- "What did you have to do to survive?" (What kinds of threat response are you using?)

By utilizing these questions, clinicians can help clients explore their own reaction patterns and the meaning of these reactions in their own context. Clients also explore how their reactions are serving them. For example, symptoms of paranoia may be a justified, adaptive response for an individual who has experienced bullying and discrimination, yet that paranoia may not be helping them in other contexts (Johnstone & Boyle, 2018). The PTMF moves away from the notion of specific cultural-bound syndromes and toward the idea that "all expressions of distress are culture bound" (Johnstone & Boyle, 2018, p. 13). When working with a client from this perspective, supporting a client in their own social justice action can be empowering. One such framework is included in Figure 2.4.

Sociocultural models reflect the idea that *preventing* abnormal behavior is preferable to *treating* it. We return to this notion throughout this book in a special feature of each chapter called "Prevention." The "Prevention" feature that appears later in this chapter examines the notion of breaking the cycle of intergenerational cognitive disability.

Social Action is a technique born out of Feminist Theory, which states that social activism and action can be a robust way to assist in client growth and healing. Below is a guide for using this modality with clients.

1. Develop a shared definition

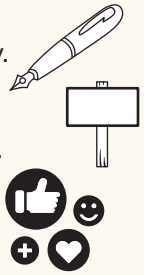
Finding shared language with your client around social justice, activism, and action is the foundation of this framework. By allowing the client to lead this, individual empowerment can form, which will be the underpinning of any action afterward. This helps reduce the power differential between client and clinician.

2. Determine client level of readiness

Using similar techniques to Motivational Interviewing (see Chapter 14), the clinician must provide space for the client to determine how ready they feel for this type of healing modality. Physical, mental, and economic structures must be taken into account to accurately address client preparedness.

3. Create a list of possible interventions

Help the client create a list of relevant social action activities in the community or online. Assist them in making this list in order from least to greatest comfortability and preparedness. Below are some possible examples:



- Sign an online petition using client's name or in an anonymous way.
- Call or write a letter to local public officials, using the counseling space to support this.
- Work together to create a sign to bring to a potential future protest.
- Attend a protest together, using similar techniques to Exposure Therapy (this chapter).
- Participate in a local or national Social Media Campaign.

4. Continued check-in and evaluations

It is the job of the clinician to aid the client in self-regulation and awareness so that they may work through the possible responses to these activities to allow for sustainable inner work. Becoming involved with social change and activism can become such a powerful experience that clients might feel prepared to further their work on their trauma and mental health overall.

Why Social Action?

Often, involvement in activism includes an aspect of creating a social network working toward the same political shift or goal. Having this network can both allow the client to find connection in a larger support group as well as pursue societal change-making.

FIGURE 2.4
Framework: Social Action as a Healing Modality

Source: Created by Kate Suazo; adapted from Laura S. Brown.

From the Case of Nelson McGrath, Continued

In returning to the case of Nelson McGrath, the sociocultural models hold implications related to his treatment outcomes. For example, if Nelson has strong family support and lives in a culture with less stigma related to psychosis, he is likely to have better outcomes. Further, his case may provide justification for systemic changes such as early identification of symptoms, better resources for treatment, or increased societal understanding of his symptoms. These changes may benefit Nelson but are likely to also benefit others in the community.

Section Review

Psychological and sociocultural variables play an important role in several theories of abnormality, including:

- psychodynamic theories,
- interpersonal theories,
- behavioral theories,
- cognitive theories,
- humanistic theories,
- sociocultural models, and
- a social justice perspective.

Each of these theories:

- emphasizes a different set of psychological or sociocultural factors that contribute to abnormal behavior, and
- is associated with interventions designed to change those factors the theory specifies as leading to abnormal behavior.

The Diathesis-Stress Model

diathesis-stress model: A model that explains how a mental disorder can result from the interaction of a predisposition (diathesis) for a disorder with a trigger (stressor) that converts the predisposition into the actual disorder.

diathesis: A biological or psychological predisposition for a disorder.

stressor: Any event that requires a person to adjust.

The idea that abnormal behavior results from the interaction of particular people within specific environments is given the fullest expression in the **diathesis-stress model** of abnormality, first introduced in the 1960s to understand schizophrenia (Ingram & Luxton, 2005). The basic assumption of the diathesis-stress model, illustrated in Figure 2.5, is that a mental disorder results from the combined effects of two influences: (1) a *predisposition* or vulnerability for that disorder—called a **diathesis**, and (2) a **stressor**, which is any event significant enough that it causes a person to have to adjust to it. According to this model, stressors are the triggers that convert a predisposition for a disorder into the actual appearance of that disorder.

The specific nature of the diathesis and the particular triggering events vary according to the disorder in question. Research suggests that, in the chapter-opening case regarding Nelson McGrath, for example, the predisposition may take the form of a biochemical imbalance or a defect in the brain that is probably genetically transmitted (see Chapter 4). In some forms of depression, the diathesis may be a biological problem, a psychological

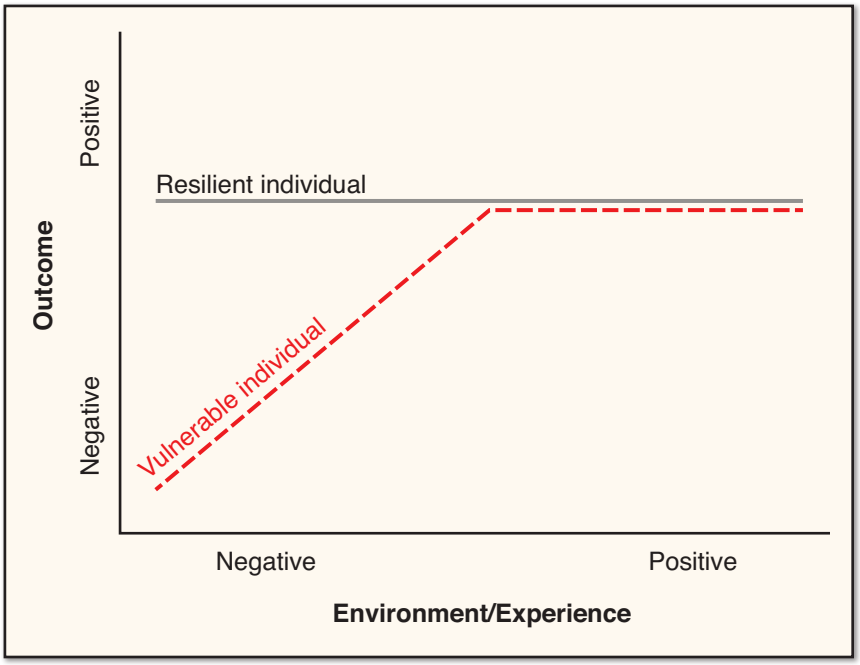


FIGURE 2.5 The Diathesis-Stress Model of Abnormality

According to the diathesis-stress model, mental disorders result when a predisposition to a disorder interacts with stressors. Stressors and diatheses can also influence each other. A diathesis can make people more likely to encounter stressors, and a stressor can intensify a diathesis. Here, the *x*-axis indicates quality of the environment/experiences, from negative to positive. The *y*-axis indicates the developmental outcome, from negative to positive. The lines depict two categorical groups that differ in their responsiveness to a negative environment: The "vulnerable" group shows a negative outcome when exposed to a negative environment, while the "resilient" group is not affected by it. No differences between the two groups emerge in a positive environment.

Source: By Mpluess (own work) [Public domain], via Wikimedia Commons.

characteristic, or a combination of both. The triggering stressors may take the form of a harsh family environment, an abusive romantic relationship, the loss of a loved one, or chronic economic adversity.

The diathesis-stress model is one example of a **biopsychosocial model** (Engel, 1977) of mental disorders—a general model or approach positing that biological, psychological (which entails thoughts, emotions, and behaviors), and social (socioeconomic, environmental, and cultural) factors all play a significant role in human functioning in the context of disorder or disease. According to the diathesis-stress model, there is an ongoing interaction of ever-changing individual characteristics and ever-changing environments. Both factors, in turn, can influence each other. Thus, the loss of a loved one might be particularly stressful for a person who is predisposed to be shy and has few friends. Likewise, a tendency toward shyness might be strengthened by interpersonal rejections or conflicts. As genetic influences, emotional temperament, early adversities, emerging symptoms, and random events are woven together over time, it becomes increasingly difficult to disentangle the complex pattern of factors that cause a particular behavior disorder. Still, the diathesis-stress model provides a helpful framework for thinking about causation without assuming that there is only one cause per disorder, without prescribing exactly what the causes might be, and without automatically ruling out any cause. Biological, psychodynamic, interpersonal, behavioral, cognitive, humanistic, and sociocultural factors can all contribute. In fact, just as in trying to explain exactly why you received a particular grade—illness, a bad teacher, a chance encounter, hard work, a role model, intellectual gifts, or whatever—it may be fundamentally impossible to say *exactly* what causes some behavior disorders (Coyne & Downey, 1991).

biopsychosocial model: A view that explains illness as the outgrowth of biological vulnerability, psychological processes, and social conditions.

One important outgrowth of the diathesis-stress model's emphasis on continuing interactions between people and situations is research in the area of **developmental psychopathology**. Scientists in this field study how adverse childhood experiences (ACES) are linked to disorders (both physical and mental) that occur later in life (Felitti et al., 1998). This developmental view of abnormal behavior helps reveal the numerous ways in which childhood experiences and versions of child and adolescent behavior and behavior problems express themselves in adulthood. We discuss the developmental view of abnormal behavior in more detail when we focus on childhood and adolescent disorders in Chapter 3.

developmental psychopathology: A field of study that focuses on how problems that first appear in childhood or adolescence are linked to disorders occurring later in life.

Not surprisingly, advocates of the diathesis-stress model suggest that effective treatment of disorders must include a combination of techniques that deal with all aspects of causation. Thus, psychotherapy and exercise are often combined in the treatment of depression, whereas parenting training is often combined with individual work and classroom changes for children with ADHD. Similarly, people with schizophrenia are often given medication and enrolled in community support programs designed to enhance daily living skills and reduce the effects of stressful experiences. The diathesis-stress model also has implications for how best to prevent disorders, as the "Prevention" feature later in the chapter illustrates.

The major principles of the diathesis-stress model and the other models of abnormality we have discussed are summarized in Table 2.4. These models, which are used to understand and explain the causes of mental disorders, each bring with them different treatments. More details about such treatments will be covered in each subsequent chapter because these treatments are typically altered to fit what we know about each mental disorder.

To illustrate how the various models of abnormality may be complementary pieces of the same puzzle, consider the example of Sandy Hook. On December 14, 2012, 20-year-old Adam Lanza fatally shot 20 children and 6 adult staff members in a mass murder at Sandy Hook Elementary School in the town of Sandy Hook in Newtown, Connecticut. Before driving to the school, Lanza shot and killed his mother, Nancy, at their Newtown home (Barron, 2012). Lanza shot himself as first responders arrived on scene. This was one of the most destructive mass shootings by a single person in American history (Bratu, 2012), after the 2017 Las Vegas concert shooting, the 2016 Orlando Nightclub Shooting, and the 2007 Virginia Tech massacre.

TABLE 2.4 Major Psychosocial Theories of Abnormal Behavior

Theory	Basic Assumption About Abnormality
Psychodynamic	Abnormality is determined by our unconscious conflicts between social rules and personal impulses and/or early relationships with caregivers.
Behavioral	Abnormality is caused by our lifelong learning experiences involving rewards, punishments, and associations.
Cognitive	Abnormality results from biased or irrational thinking by which we distort and misunderstand our reality.
Humanistic	Abnormality develops from our inability to live authentic, freely directed lives.
Sociocultural	Abnormality is the result of external forces, such as poverty, environmental stress, cultural traditions, power dynamics, and systems of oppression.
Diathesis-Stress	Abnormality is the product of two interacting factors: (1) a predisposition to have that disorder and (2) life stressors.

Ron Frank/Shutterstock

On December 14, 2012, 20-year-old Adam Lanza fatally shot 20 children and 6 adult staff members in a mass murder at Sandy Hook Elementary School in the village of Sandy Hook in Newtown, Connecticut. This was a memorial established nearby in the wake of the tragedy to commemorate those who perished.

Of course, in the aftermath of such a horrific event, we all attempt to understand why it happened. A November 2013 report issued by the Connecticut State Attorney's office concluded that the perpetrator acted alone and planned his actions, but no evidence collected provided any indication as to the specific causes of his behavior or why he targeted Sandy Hook Elementary School (Sedensky, 2013).

But each one of the models of abnormality shown in Table 2.4 might provide one potential clue or piece to the mysterious puzzle. Psychodynamic theories could point to Adam's childhood, including his estranged older brother, Ryan, and his father, Peter. Interpersonally, Adam rarely connected with people and withdrew from almost everyone, beginning in the seventh grade. He did not even communicate with his mother, Nancy, with whom he lived, except via email. Behaviorally, he received rewards primarily from playing violent video games, including one called "School Shooting," and going to the shooting range with his mother, the only activity the two shared. Though he was described by teachers as "intelligent," Adam's thoughts (cognitions) became increasingly centered on violence as early as the fifth grade, when he produced "The Big Book of Granny" for a class project. The main character had a gun in her cane and shot people (Sedensky, 2013).

Humanistic psychologists might focus on Adam's need for love and connection that he never received (except via violence), whereas sociocultural factors would point to his easy access to firearms, given U.S. laws and his mother's apparent consent to purchase weapons for him. The ongoing debate about gun control in the United States highlights the influence of systems. Social justice efforts may focus on general violence prevention or advocacy for more early intervention programs.

Adam's vulnerability or diathesis may have been having a mental disorder. In 2005, he was diagnosed with Asperger syndrome (now classified as an autism spectrum disorder; see Chapter 3). Tutoring, desensitization, and medication were recommended, but Adam refused to take the suggested medication and did not engage in the suggested behavior therapies (Sedensky, 2013). Although there is no clear evidence that people with autism spectrum disorder are more likely than others to commit violent crimes, there is a subset of people with this disorder who are overrepresented in the criminal justice system (Mouridsen, 2012). Adam's social isolation resulting from his autism spectrum disorder may have been a diathesis that then interacted catastrophically with his life stress—his father and brother leaving, his mother's plan to move and her recent 3-day trip away, his difficulty eating food, and his isolation from peers.

As a result of such a wide array of potentially causal elements in the Sandy Hook massacre, a group of mental health professionals produced a research-based position statement. In this statement, they recommended a thoughtful approach to safer schools, along with strengthened attention to mental health needs in the community, structured threat assessment approaches, revised policies on youth exposure to violent media, and improved policies and practices related to commonsense gun safety (Astor et al., 2013).

Section Review

The diathesis-stress model is an example of a biopsychosocial model that integrates all different kinds of causes together in explaining the occurrence of a mental disorder. The model states that any disorder results from the combined effects of two influences:

- a diathesis, which is a predisposition or vulnerability for that disorder, and
- a stressor, any event significant enough that it causes a person to have to adjust to it. According to this model, stressors are the triggers that convert a predisposition for a disorder into the actual appearance of that disorder.

Scientific Methods and Models of Mental Disorders

So which models of abnormality combine to provide the "correct" explanation for mental disorders such as that of Nelson McGrath in the chapter-opening case or for the Sandy Hook massacre? There is no easy answer to this question. In their search for the causes of mental disorders and for optimal treatments, psychologists—like other scientists—are guided by the **scientific method**, a set of research principles and methods that helps them to draw valid conclusions about which pieces of the puzzle might be more important for any given mental disorder.

scientific method: A systematic process of studying, observing, and recording data to assess the validity of hypotheses.

Psychologists test their ideas about the origins and treatment of abnormal behavior by collecting empirical data designed to show whether those ideas are true or false. The process usually starts when the researcher states a **hypothesis**, a proposition describing how two or more variables are related (e.g., "depression is caused by lack of pleasant social interaction"). As evidence accumulates in support of a hypothesis, the researcher may organize their explanations into a **theory**, a set of propositions used to predict and explain certain phenomena. Psychodynamic, behavioral, and cognitive accounts of mental disorders are examples of such theories. But even theories are only tentative explanations, sets of hypotheses that must be subjected to further scientific evaluation before they can be accepted as valid explanations and guides to future research.

hypothesis: A theoretical proposition describing how two or more variables are related.

theory: A set of propositions used to predict and explain certain phenomena.

To test a hypothesis empirically, researchers must use methods that allow the hypothesis to be confirmed *or* disconfirmed. Accordingly, the hypothesis must be specific, clear, and stated in terms that have been operationally defined. An **operational definition** is a statement that equates a concept with the exact methods used to represent or measure it. An operational definition of depression, for example, might be a high score on a test that is known to measure depression (e.g., the Beck Depression Inventory-II; Beck et al., 1996). Two of the most important methods for testing hypotheses are correlational research and experiments.

operational definition: A statement that equates a concept with the exact methods used to represent or measure it.

Correlational Research

correlation: A measure of the degree to which one variable is related to another.

A **correlation** is a measure of the degree to which one variable is related to another. When two variables change together in the same direction, they are *positively correlated*. For example, height and weight tend to be positively correlated; taller people usually weigh more than shorter people. When two variables move in opposite directions, they are *negatively correlated*. For example, as more snow falls on a highway, motorists tend to drive slower, so snowfall and driving speed are negatively correlated. If the correlation between two variables is large, knowing about one variable allows for accurate predictions about the second variable.

To test the hypothesis that people feel depressed as a result of having too few pleasant social interactions, a researcher might operationally define "depression" as a score greater than 28 on the Beck Depression Inventory-II (BDI-II) test and "pleasant social interactions" as the number of conversations during which a person is observed smiling at another person. If these two variables are negatively correlated (the higher the depression score, the fewer smiling conversations), the hypothesis has been supported.

Correlational studies help researchers describe and predict abnormal behavior and evaluate hypotheses about its causes. However, these correlations cannot inform us about *why* two variables are related; that is, they cannot establish that one variable *caused* a change in another. Thus, we do not know whether (1) lack of pleasant social interaction caused depression; (2) depression made people less likely to have pleasant social interactions; or (3) some third factor caused both depression and social withdrawal. For instance, there is a significant correlation between homicides and ice cream sales—that is, when ice cream sales increase, the rate of homicides also increases (Peters, 2013). Presumably, this does not mean that ice cream is the *cause* of violent behavior (unless you get angry at someone for stealing your cone), but rather that both of these variables are increased by a third variable, such as hot weather.

Experiments

experiment: A scientific process of determining cause and effect wherein subjects are randomly assigned to conditions manipulated by a researcher who measures the effect of this manipulation on other variables, while holding all other influences constant.

independent variable (IV): The variable in an experiment that is manipulated by the experimenter.

dependent variable (DV): The variable in an experiment that is observed to determine the effect of the independent variable.

experimental group: The group that receives an active treatment or manipulation in an experiment.

control group: A group of subjects included in an experiment to control for some variable that could provide an alternative explanation for observed effects on a dependent variable.

random assignment: A method of assigning members to experimental and control groups such that they have an equal chance of being in either. Random assignment decreases the chance that variables other than the independent variable will influence the result of the experiment.

confounding variable: A variable that confuses or distorts research results, making it difficult to be sure whether the independent variable, confounding variable, or some combination of the two was responsible for observed effects on the dependent variable.

To help them draw cause-effect conclusions about relationships between variables—and thus to choose the most likely explanation for these relationships—researchers conduct experiments. In an **experiment**, the researcher manipulates (plays with) one variable and measures the effect of this manipulation on a second variable, while holding all other influences constant. The variable that is manipulated by the experimenter is called the **independent variable (IV)**; the variable that is observed for the effect of the manipulation is called the **dependent variable (DV)**.

In the simplest experiment, the researcher manipulates the independent variable by randomly assigning people to an **experimental group** (which, say, receives treatment for potential cognitive disability, as discussed in this chapter's "Prevention" feature) or to a **control group** (which receives no treatment). The independent variable in this experiment is whether or not the participants receive treatment. The dependent variable here is the degree to which the participants' cognitive abilities improve. In this example, the Abecedarian Project (Campbell et al., 2012) showed a wide array of benefits to the treatment group via longitudinal experimental research, with follow-ups done many years later when the preschool children were 30 years old. **Random assignment** of participants to each condition is vital because it makes it likely that factors such as age, personality characteristics, severity of cognitive disability, and other variables that might affect the dependent variable are distributed randomly, and therefore about equally, between the experimental and control groups. Random assignment, in other words, decreases the chance that variables other than the independent variable will influence the experimenter's results.

Variables that *do* act to confuse or distort results are called **confounding variables**. Their presence makes it harder for researchers to be sure whether the independent variable, the confounding variable, or some combination of the two was responsible for the observed effects on the dependent variable. For example, suppose depressed participants who were randomly assigned to receive a drug treatment improved more than depressed

participants in a no-treatment control group. Was the difference due to the drug itself or to the fact that the treated participants had stronger *expectations* for improvement? Perhaps *any* treatment—from drugs to backrubs—that raised their expectations and hope for change would have had the same effect. Even the *experimenter's* expectations about the drug's benefit might have caused them to act in a way that gave the treated group greater motivation to improve. Perhaps the parents of the children in the Abecedarian Project had higher hopes for their kids' futures and therefore enrolled them in more enrichment activities throughout their lives.

Improvement stemming solely from expectations or other factors beyond a treatment's active ingredient is known as a **placebo effect**. To assess the role of placebo effects on the dependent variable, researchers often randomly assign some participants to a **placebo control group** that receives an impressive-sounding, but inert or phony, treatment. The progress of the placebo participants is then compared to that of participants in treatment and no-treatment control groups. Of course, if the participants or the therapists know who is receiving real treatment and who is getting placebos, differing expectations for improvement could still bias the results. A **double-blind study** minimizes such bias: Only the director of the experiment knows who is in which group, and everyone else is kept "blind" to the participants' group assignment.

placebo effect: Improvements that result from expectations or other psychological factors rather than from a treatment's active ingredients.

placebo control group: In an experiment, a control group that receives an impressive, but inactive or theoretically inert, treatment.

double-blind study: An experimental design in which only the director of the experiment knows which participants are in the experimental group and which are in the control group.

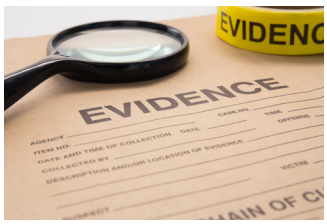
One startling example of the power of placebo occurred in a double-blind study involving patients with osteoarthritis of the knee. One and two years after the surgery, patients in all three groups reported less knee pain and better movement, with no significant differences between the groups (Moseley et al., 2002). This was surprising because two of the groups underwent common surgical procedures—either arthroscopic lavage or arthroscopic débridement of the knee—whereas the third group got only sham surgery (placebo). This placebo group received anesthesia, saw a (fake) video of their surgery, and had skin incisions, but no actual procedure was performed. Yet they reported similar improvement to the patients who received either of the two actual surgeries.

Regardless of how the initial research is conducted—whether by correlational or experimental research or a hybrid of both—it is essential that the results be subject to **replication**. That is, if the results are duplicated many times with new groups of participants, the researcher can have more confidence that there is a cause-effect relationship between the independent and dependent variables. Accordingly, **meta-analyses** are becoming more and more important to scientists. These statistical compilations include many different original studies on a given treatment or disorder to yield overall effect sizes or estimates of the overall power of the treatment across multiple replications.

replication: Repeating a research study with a new group of subjects and/or in a different situation to assess whether prior findings will be found under new circumstances.

meta-analysis: Examination of data from many independent studies of the same topic that draws conclusions about general trends.

Evidence-based treatment refers to an intervention that is backed by scientific evidence. That is, scientific studies have been conducted and extensive research has been documented on a particular treatment, which has proven to be effective for helping people with that psychological disorder. Because of the critical importance of using the best available treatments, you will see this "evidence-based treatment" icon reappear throughout the book to indicate that the intervention being described has been subject to scientific scrutiny.



Evidence-Based Treatment

Human Diversity and Research Methods

Replication of research results is important for another reason as well. Researchers need to know how well their results represent or generalize to people in general, not just their research sample. Do conclusions about social interaction and depression apply to men as well as women? Does the relationship hold among people from different ethnic groups or countries? Do study results hold up in real-world settings where selection of clients is not as restricted as selection of study participants?

To study the effects of human diversity on abnormal behavior, researchers must pay special attention to *sampling*, the methods used for selecting research participants. Ideally, there would be utterly random sampling in which all people on Earth have an equal chance of being included in any given study. In reality, though, it is impossible to draw a truly random sample from the world population, so researchers usually aim for **representative samples** in which participants are selected so as to represent all levels of

representative sample: A sample in which participants are selected to represent levels of important subject variables, such as age, gender, and ethnicity; a small group selected from a larger group in such a way that it approximates the characteristics of the larger group.

important participant variables, such as age, gender, and ethnicity. Another option is to focus on a specific participant characteristic and select people as randomly as possible from that group alone. Thus, if researchers are studying whether a treatment that works with adults will also benefit children, they would select their next sample from a diverse population of children. The Abecedarian Project discussed in the "Prevention" feature was based on a sample of 98% Black children in North Carolina. How would these results apply to children of different ethnicities and/or from different regions of the United States or from other countries?

Researchers can also study the impact of human diversity by sampling in such a way that its effects can be analyzed. For example, suppose we are interested in the impact of age or ethnicity on the relationship between social interaction and depression. We can explore these questions by selecting participants in a way that ensures that there are equal numbers of people from each of several age groups and each of several ethnic backgrounds. We can then determine whether the correlation between pleasant social interactions and depression is stronger for people of a particular age or for those in a particular ethnic group.

qualitative research: Research that utilizes non-numerical data, such as interviews, observations, and focus groups, to analyze behavior.

Additionally, sometimes researchers utilize qualitative research methods to understand nuances of human behavior. **Qualitative research** utilizes non-numerical data, such as interviews, observations, or focus groups to analyze behavior (Pathak et al., 2013). Often qualitative research helps researchers explore concepts at a deeper level while also allowing participants to raise ideas that researchers may not have even considered. This is particularly important as many historical research studies in psychology, especially treatment intervention studies, have been conducted with primarily White participants and so the results may not generalize to other populations (Hall, 2001).

participatory action research: A research design that places research participants as active contributors to research development and analysis.

With increasing focus on social justice within the field of psychology, **participatory action research** (PAR) has become more common. In PAR, researchers work directly with participants to guide and develop relevant research questions, collect data, and review and analyze data. Participants are viewed as coresearchers or co-collaborators. This methodology has become particularly relevant with diverse populations as researchers from outside specific communities may not fully understand the needs and concerns of the community. PAR emphasizes that communities are the experts of their own needs and encourages initiation of systemic change within communities as their understanding of a problem or construct is deepened. For example, as part of an ongoing series of PAR projects in one Inuit community, researchers learned that *resilience*, often considered an individual personality trait in Western psychology, was conceptualized as a social, community-based trait that had implications for subsequent interventions for the community (Kidd et al., 2018).

Understanding Mental Disorders through Scientific Methods

Not surprisingly, the field of abnormal psychology is filled with controversies. Researchers disagree about how best to diagnose mental disorders, what their major causes are, and how they should be treated. To what extent is schizophrenia inherited? Why are women diagnosed with depression more often than men? Should most children with attention-deficit/hyperactivity disorder be given drugs? Do mental disorders cause people to commit crimes? Can clinicians predict who will be dangerous? Or, as examined in the "Controversy" feature earlier in this chapter, should we study genetic causes of abnormality?

Every chapter of this book includes a special "Controversy" feature that deals with a major dispute about some aspect of abnormal psychology, discusses existing research, and points to gaps in current knowledge. Final answers to controversial questions are difficult to come by, because even though each study provides part of an answer, it also raises new questions that spur researchers to do more research and make new discoveries. Even basic theories about abnormal behavior are constantly being tested, revised, abandoned, and/or refined. Yet a field without uncertainty and controversy would be a field without progress.

PREVENTION

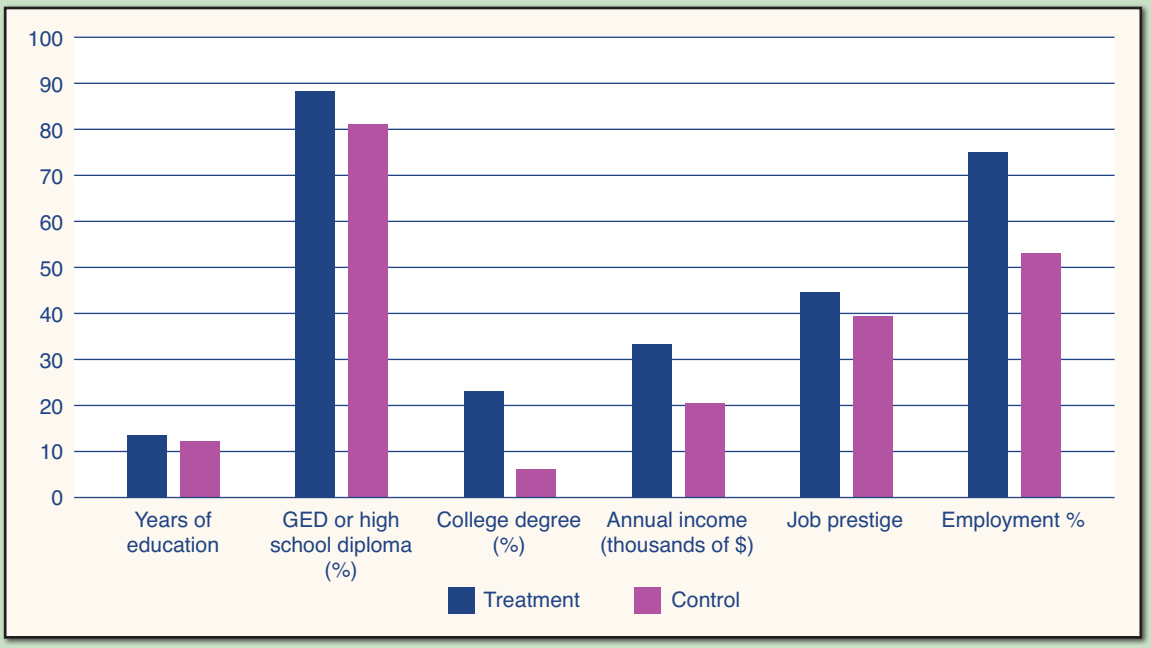
Breaking the Cycle of Intergenerational Cognitive Disability

The Head Start program, discussed further in Chapter 3, targets children whose risk for intellectual disability is primarily associated with poverty, not with the intellectual skills of their parent(s). However, parental IQ is a better predictor of the developmental quality of the home environment than family income (Keltner, 1994). For this reason, several programs have targeted infants whose parents have low IQs. These programs provide a more direct test than Head Start of whether the intergenerational transmission of cultural-familial intellectual delays can be interrupted by early intervention.

One such program was the Abecedarian Project, established in 1972 at the Frank Porter Graham Child Development Center in North Carolina (Ramey & Smith, 1977). The word *abecedarian* refers to one who learns the fundamentals of some area of skill, such as the alphabet. The Abecedarian intervention began in the first 3 months of life and lasted at least until the child's entry into kindergarten. Toddlers participated 6 to 8 hours a day in a nursery school setting, 50 weeks per year. For children 3 and under, the curriculum focused on motor, social, and cognitive skills, often provided in one-to-one instruction. Between ages 3 and 5, small-group instruction was devoted to science, arithmetic, music, and reading. To test the hypothesis that children in this curriculum would show improved development, selected families were randomly assigned to an intervention or control group. Both groups received free nutritional supplements and health care, but only the intervention group was given the school-based curriculum just described.

Numerous studies have traced the progress of these two groups of children, who are now adults (Ramey & Ramey, 1992; Campbell et al., 2002; Campbell et al., 2012). By age 3, the intervention group had IQs that were, on average, 20 points higher than those of children in the control condition. Among control-group mothers with IQs below 70, all but one of their children had IQs in the intellectually disabled or borderline range of intelligence. In contrast, *all* children in the intervention group tested in the normal range of IQ at age 3. The effect of intervention at this age suggested that even children whose intelligence may be influenced partially by heredity are able to benefit from early educational intervention.

Assessments of the Abecedarian children at age 12 showed continuing superiority for the intervention group, although the magnitude of the difference was smaller than it was during the preschool years (Ramey & Ramey, 1992). The intervention group had IQs that



Adult Outcomes for Abecedarian Project Interventions

At age 30, people who had participated in the preschool Abecedarian Project had higher educational attainments and somewhat better financial outcomes than the control group.

Source: Data from Campbell et al., 2012.

Continued

PREVENTION

Breaking the Cycle of Intergenerational Cognitive Disability *(Continued)*

averaged about 5 points higher than the control group. Nearly half of the children in the control group had IQs less than 85, compared with only 13% of the intervention group. And the intervention led to a 50% reduction in the rate of grade failure and to significantly higher reading and mathematical skills. According to Campbell and colleagues, "those in the preschool treatment group earned significantly higher scores on intellectual and academic measures as young adults, attained significantly more years of total education, were more likely to attend a 4-year college, and showed a reduction in teenage pregnancy compared with preschool controls" (2002, p. 142). In other words, the prevention-based treatment was associated with meaningful effect sizes on key academic skills that lasted into adulthood.

Most impressively, the researchers continued their longitudinal study through the participants' adulthood. Of the original 111 infants enrolled (98% Black), 101 took part in the follow-up when they were 30 years old (Campbell et al., 2012). Overall, the findings provided strong evidence for educational benefits (e.g., 23% of the treatment group had earned a bachelor's degree or higher by age 30 compared with 6% of the control group—see accompanying graph) and mixed evidence for economic benefits (e.g., 75% of the treated group worked full time, whereas 53% of the control group worked full time as adults). However, there was little evidence for treatment-related social adjustment outcomes, such as reduced criminal behavior or higher marital satisfaction as adults (Campbell et al., 2012).

The success of the Abecedarian Project and others like it cast doubt on the idea that ethnic and social class differences in intelligence and achievement are immutable facts of life (e.g., Herrnstein & Murray, 1994). We can now be more hopeful that early interventions can prevent intergenerational patterns of cognitive disability (Ramey, 1993). Unfortunately, the positive results of early intervention programs are not typically matched by the public's will to fund them.

Section Review

The scientific method provides the most vital way for mental health professionals to

- study mental disorders;
- resolve disputes between competing models, theories, or treatment approaches; and
- answer any new questions that arise.

Research can be correlational—examining whether there is a relationship between two variables—or experimental, which involves issues such as sample diversity, random assignment, and control groups to identify causal mechanisms more clearly than other types of research. Qualitative methods and participatory action research can also be used to understand problems at a more nuanced level and encourage change within a community.

Revisiting the Case of Nelson McGrath

Nelson McGrath's fate would have been different in other times and societies. Had Nelson lived in ancient Egypt or Asia, his disorder would probably have been viewed as a sign of demonic possession, and he would have been treated with exorcism or some other religious ritual. In Classical Greece or in the early Roman Empire, he might have received a prescription for moderation in behavior, along with special diets, calming words, and physical therapy. In medieval Europe, Nelson might have been treated as a religious heretic. In the 15th-century Renaissance, Nelson might have been isolated from society in a large asylum, where he would have received little in the way of actual treatment.

By the 18th century, Nelson could have benefitted from the humanitarian treatments introduced by such reformers as Pinel. But as more and larger hospitals were built, Nelson would more than likely have been confined in an institution for an indefinite period of time. By the late 1800s, as the specialties of psychiatry and clinical psychology devel-

oped, medical or psychological treatments might have been used with Nelson. In the absence of a scientific understanding of the biology or psychology of most disorders, however, these treatments would probably not have been highly effective for him.

Today, Nelson's problems would be explained as emerging due to a combination of biological, psychological, and sociocultural factors. In fact, his disorder was diagnosed as a form of schizophrenia, and he was treated with medication and behavioral techniques aimed at helping him live effectively in society rather than in a hospital. For most of the past 5 years, Nelson has been able to remain out of the hospital. His disorder, while not fully understood, is now the subject of research studies around the world. These studies continue to yield important information about the causes and treatment of schizophrenia, to be covered in Chapter 4.

Why was Nelson diagnosed with schizophrenia? How should you interact with someone with schizophrenia? How does your culture view people with schizophrenia? In the previous chapter, we reviewed the processes and criteria by which mental health professionals diagnose and classify abnormal behavior. In the coming chapters, we discuss the various categories of mental disorders in more detail. We describe the major characteristics of each disorder, along with some case examples, and summarize research on causal factors and the most effective methods of treatment. To give added perspective to this material, each chapter also includes a brief interview with a leading expert on the disorder under discussion, such as our conversation with Dr. Karen Tao that concludes this chapter.

As you learn about specific mental disorders in each subsequent chapter of this textbook, we invite you to think critically about all aspects of these disorders: how to prevent, diagnose, and treat them; what causes these disorders and what key questions about them remain unanswered; and, perhaps most importantly, how to have healthy interactions with all kinds of people with mental disorders without prejudice. Your own learning about abnormal psychology can be a vital force for social change, especially for reducing the stigma associated with many mental disorders (Barney, 2014), so that sufferers like Nelson McGrath are treated as fairly as possible by the world around them.

Summary

Making Sense of Abnormality: A Brief History of Early Models of Mental Disorders

We have reviewed the major explanations for abnormal behavior that have prevailed across much of recorded history. From the most ancient civilizations, through the early Greek and Roman periods, and throughout the Middle Ages, supernatural and natural explanations vied for dominance. Depending on which view was most popular, religious rituals or naturalistic therapies were the treatments of choice. Neither proved to be effective. Beginning in the Renaissance and extending through the Enlightenment to the beginning of the 20th century, views of abnormality became more and more naturalistic in orientation, mainly because of the influence of the scientific method. Current models of abnormality combine biological, psychological, and sociocultural explanations, each of which has been supported by results of scientific research.

The Biological Model

Abnormal behavior can be explained in terms of disturbances in the nervous system caused by illness, trauma, or genetic factors. The nervous system has two main parts: the central nervous system (spinal cord and brain) and the peripheral nervous system (composed of the somatic nervous system and the autonomic nervous system). In the autonomic nervous system, the sympathetic division generally increases physiological arousal, preparing the body for action, and the parasympathetic division usually decreases arousal. Malfunctions can occur in any of the main structures of the nervous system, but the forebrain is particularly important because it helps regulate emotion, planning, and thinking and because it is linked to other regulators of the body's functions, such as the glands that make up the endocrine system. Much research has also focused on the role of disturbances in chemical messengers known as neurotransmitters and on the influence of genes. Although genes control the development of every cell and organ of the body, the unique physical and psychological characteristics of each person reflect the interaction between genetic predispositions and the environment. To understand this interaction, behavioral geneticists conduct family, twin, and adoption studies.

A CONVERSATION WITH

Karen Tao

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Dr. Karen Tao is an associate professor in the Counseling Psychology Program in the Department of Educational Psychology at the University of Utah. Her research centers around reducing disparities in the access, service, and quality of mental health and education for historically marginalized groups. She also focuses on the importance of talking openly about race and culture and moderates an online PBS series about talking with kids about race (Let's Talk: How to Talk to Kids about Race; https://www.pbsutah.org/pbs-utah-productions/lets-talk/).

Abnormal Psychology Research

Q *Undergraduate abnormal psychology textbooks (like this one) generally describe abnormality through the lens of the* DSM*. Whereas an understanding of the* DSM *is critical, what limitations do you see with the* DSM*? Broadly speaking, how do you conceptualize "abnormality" with your own clients and the therapists you train?*

A Abnormality is quite a loaded concept. When we think about mental health, we tend to think about things in discreet and binary ways. But, if we take a more Google Earth approach, where we zoom way, way out and think about the full spectrum of what normality and abnormality are, we realize that it is very culturally bound and contextually bound. The *DSM* was constructed by a specific group of people with a specific type of training philosophy and understanding about human functioning and development that then shape definitions of what a "functioning or normal" person should look like. I want to give the *DSM* credit though, because in recent years, they have developed the Cultural Formulation Interview (CFI), which has been such an incredible contribution and resource to the mental health field and psychology as a whole. In the CFI, practitioners are encouraged to ask their clients how they view their presenting issue. Before labeling symptoms or diagnosing clients, we want to get an understanding of what the client's formulation of their presenting issues are. Here is a quick example that really shifted my own training as a new therapist. I was working with a 22-year-old Latina woman who was diagnosed with schizoaffective disorder. One of the issues that was noted in her chart was that she was nonadherent to any medication. I remember my supervisor sat me down and said, "Working with clients who are not receptive to the type of treatment that we want to provide them is not their fault. It's about the way the system is interacting with our client. What we really need to understand is how she is seeing what is happening to her. You should ask her how she understands what is going on in her life right now . . ." Through her cultural lens, the client talked about *mal de ojo*, or evil eye, and her belief that she had been cursed by one of her relatives. Her whole understanding of what we labeled schizoaffective disorder was different than ours. When we worked through her own understanding and conceptualization, along with a Western medical conceptualization, we came to a better understanding of how to best help her get to where she wanted to be.

Q *When you work with clients, how do you ensure that cultural considerations are integrated into your clinical practice? What about in diagnoses specifically?*

A I utilize a multicultural orientation framework. When working with clients, I ask, "How can I best understand what the client is bringing in?" I also use a lot of interpersonal process to recognize my own ideas about the specific symptoms that the client is talking about before I make assumptions. For example, when I talk with clients about depression, I explain that there are a lot of potential reasons that depression comes about. There can be a genetic predisposition, but there is also a social piece. We have different emotions, and we express ourselves differently. Finally, there is the cultural piece, including one's identities and the systems in which we operate. It's about making sure we get the full story.

Q *What is a microaggression? What types of microaggressions are most common in therapy and diagnosis?*

A My definition of microaggressions is similar to Dr. Derald Wing Sue's definition. A microaggression is an intentional or unintentional verbal or nonverbal communication that can be offensive, minimize or invalidate the receiver's identities or intersections of identities. The most common types of microaggressions in therapy are those that serve as microinvalidations or those statements, or lack of statements, that create a sense

A CONVERSATION WITH

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of invisibility. These can leave a client feeling unseen or unknown. One such example is asking a client who identifies as a woman about their plans to have a family and children. This question comes from the sexist-based assumption that having children is a goal of every woman.

I think a better reframe of this question is "How can clinicians recognize when a microaggression has been made and what do we do next?" Every interaction with a client is going to be a new cultural interaction. We are always going to be learning from our clients. Because we have different lived experiences, it is always going to be a challenge to step into someone else's shoes. When a client comes in, we are only seeing one little slice of a big picture, so inevitably we are going to say something wrong. What we want to pay attention to is how clients react. What I have learned from conducting microaggression research is that the therapeutic alliance or relationship will be the foundation for any sort of cultural rupture that happens. Research tells us that microaggressions that are addressed directly in therapy have no impact on the outcome.

Q *Given the important role of culture/race/ethnicity in the lived experiences of clients, what recommendations do you have for new clinicians as they invite clients to share about these topics?*

A In retrospect, to work with clients across various demographics, we need to understand our own lived experience, assumptions, values, worldviews and biases. In order for me to understand someone else, I have to recognize where my initial reactions and biases are coming from. Also, coming from the cultural humility literature, it is important to recognize that it is okay to not know everything. As a clinician, you are in the knowledge-seeking process with your client. Thinking we need to know everything puts pressure on us and then closes us off to hearing new information. Another piece for new clinicians to consider, which comes from a multicultural therapy orientation, is the dimension of "cultural comfort." This means that our physiological or somatic reactions to clients become important data to pay attention to. For example, when I am working with a client and I notice my heart starts to race and I get sweaty or I notice that I start to do a lot of psychoeducation or nod my head a lot, this is actually me feeling uncomfortable delving into topics that are especially important to explore. Rather than avoid or suppress these responses, I use the responses to help me identify important topics for me to focus in on. I might not do this in the moment but may bring it up in another session with a statement like, "I was a little uncomfortable when we started delving into this topic. I noticed some of this stuff come up for me and I did not explore a little more. That was about my discomfort and I am wondering if we can spend more time in this area today." Being more attuned to ourselves helps us be more attuned to our clients.

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Psychological and Sociocultural Models

The first formal psychological theory of abnormal behavior was Sigmund Freud's psychoanalysis. By the middle of the 20th century, several alternative psychological theories had been proposed, including variations on psychoanalysis, as well as behavioral, cognitive, and humanistic theories. Although biological and psychological models of abnormality emphasize internal causes of disorder, sociocultural models point to external factors, such as poverty, stress, and family hardships, as the major causes. Social justice movements within psychology argue that systematic changes may also be needed to improve clients' symptoms and lives.

The Diathesis-Stress Model

The diathesis-stress model combines internal factors (the diathesis) with external factors (stressors) to explain abnormal behavior. When a predisposing diathesis is aggravated by a stressor, the risk of developing a disorder increases.

Scientific Methods and Models of Mental Disorders

Scientists collect empirical data to test hypotheses about various models and theories of abnormal behavior. To verify hypotheses, scientists use operational definitions, describing concepts in terms of the operations used to measure them. They then employ correlational and experimental research methods to test their hypotheses. Correlational studies help describe and predict abnormal behavior but cannot explain why two variables are related or confirm that a change in one variable actually caused a change in another. To draw causal conclusions, scientists conduct experiments, studies in which one variable—the independent variable—is manipulated, and its effect on a second variable—the dependent variable—is observed. To guard against the distortion of placebo effects and other confounding variables, true experiments include random assignment of participants to experimental and various control groups. Especially in treatment studies, double-blind designs are vital to protect against experimenter bias. Regardless of

the designs used, researchers try to study samples of people who represent the full range of human diversity. This effort makes it more likely that research results will be widely applicable. Alternate methods, such as qualitative research and participatory action research, may also be used to understand nuances of diverse perspectives.

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attribution, p. 68
axon, p. 57
behavior modification (behavior therapy), p. 67
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behavioral theory, p. 65
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