

The Nature of Psychology

On April 20, 1999, Americans were horrified when two students went on a shooting rampage at Columbine High School in Jefferson County, Colorado. The students were Eric Harris, age 18, and Dylan Klebold, age 17. Armed with pistols, rifles, shotguns, and homemade bombs they held their fellow students and teachers hostage. Over the course of several hours, they systematically killed one teacher and 12 students and wounded 23 other students. The two then committed suicide. It took days for the police to defuse about 30 bombs Harris and Klebold had planted in the school to maim or kill would-be rescuers. Harris and Klebold were members of a group known as the Trench Coat Mafia, a group of students who always wore black clothing and ridiculed so-called jocks and students who conformed to traditional social norms.

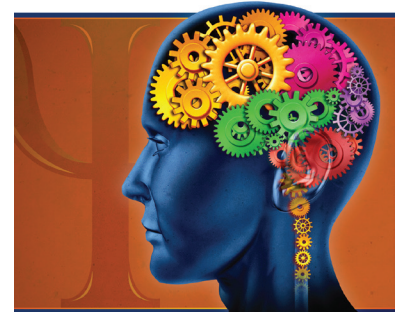
The issue of school violence has become a pervasive one in the United States. The Columbine High School incident was but one in a series of similar incidents at schools in towns such as Pearl, Mississippi; West Paducah, Kentucky; Jonesboro, Arkansas; and Springfield, Oregon. In 2007, the fatal shooting of 32 people by a student at Virginia Tech University became the largest school massacre in American history. School violence of all kinds is of concern to psychologists. What would lead two intelligent teenagers from apparently stable, affluent families to commit a heinous act like the one at Columbine High School? How can we prevent other incidents like it? How can we help survivors cope with such incidents? The Columbine massacre, for example, led school districts across the United States to ask school psychologists to develop violence-prevention programs and crisis counseling programs for those affected by school violence (Crepeau-Hobson, Filaccio, & Gottfried, 2005).

The science of *psychology* seeks answers to questions about violence and all other aspects of human and animal behavior. Can the effects of brain damage be overcome by the transplantation of brain tissue? Do attachment patterns in infancy predict attachment patterns in adolescent and adult romantic relationships? Do eyewitnesses give accurate testimony? Can chimpanzees learn to use language? Do lie detectors really detect lies? Is there a heart-attack-prone personality? What factors promote interpersonal attraction? These are some of the many questions about human and animal behavior answered in this book.

But what is psychology? The word *psychology* was coined in the 16th century from the Greek terms *psyche*, meaning “soul” or “mind,” and *logos*, meaning “the study of a subject.” Thus, the initial

Chapter

1



Source: CLIPAREA/Custom media/Shutterstock.com.

Chapter Outline

The Historical Context of Psychology

Contemporary Perspectives in Psychology

The Scope of Psychology

psychology The science of behavior and cognitive processes.

meaning of *psychology* was “the study of the soul or mind” (Brozek, 1999). This definition reflected the early interest of theologians in topics that are now considered the province of psychologists. Psychology has continued to be defined by its subject matter, which has changed over time. By the late 19th century, when psychology emerged as a science, it had become “the Science of Mental Life” (James, 1890/1981, Vol. 1, p. 15).

Beginning in the 1910s, many psychologists—believing that a true science could study only directly observable, measurable events—abandoned the study of the mind in favor of the study of overt behavior. Psychologists moved from studying mental experiences, such as thirst or anger, to studying their observable manifestations, such as drinking or aggression. Consequently, by the 1920s, psychology was commonly defined as “the scientific study of behavior.” This definition was dominant until the 1960s, when there was a revival of interest in studying the mind. As a result, **psychology** is now more broadly defined as “the science of behavior and cognitive processes.”

What makes psychology a science? Psychology is a science because it relies on the *scientific method* (Holmes & Beins, 2009). Sciences are “scientific” because they share a common method, not because they share a common subject matter. Physics, chemistry, biology, and psychology differ in what they study, yet each uses the scientific method. Whereas a biochemist might use the scientific method to study the unhealthy effects of toxic pollutants on plants or animals, a psychologist might use it to study the behavior or cognitive experiences of a person suffering from severe depression. The role of the scientific method in psychology is discussed at length in Chapter 2.

The Historical Context of Psychology

Psychologists stress the importance of knowing the history of their discipline, with the vast majority of academic psychology departments offering a course devoted to the history of psychology (Fuchs & Viney, 2002). Like any other science, psychology has evolved over time. It has been influenced by developments in other disciplines and by its social, cultural, and historical contexts. To appreciate the state of psychology today, you should understand its origins (Danziger, 1994).

The Roots of Psychology

Psychology’s historical roots are in philosophy and science. When psychologists of the late 19th century began to use the scientific method to study the mind, psychology became an independent scientific discipline (Hatfield, 2002). Though scientists and philosophers alike rely on systematic observation and reasoning as sources of knowledge, philosophers rely more on reasoning. For example, a philosopher might use reasoning to argue whether we are ever truly altruistic (that is, completely unselfish) in helping other people, whereas a psychologist might approach this issue by studying the cognitive, emotional and situational factors that determine the circumstances in which one person will help another (see Chapter 17).



Plato (c. 428–347 B. C.)

Plato introduced the concepts of nativism and rationalism.

Source: Antonio Abrignani/Shutterstock.com.

The Philosophical Roots of Psychology

The philosophical roots of psychology reach back to the philosophers of ancient Greece, most notably Plato (c. 428–347 B.C.) and his pupil Aristotle (384–322 B.C.), who were especially interested in the origin of knowledge. Plato noted that our senses can deceive

us, as in illusions such as the apparent bending of a straight stick partly immersed in a pool of water. Downplaying knowledge gained through the senses, Plato believed that people enter the world with inborn knowledge—a philosophical position called **nativism**. Plato also believed that we can gain access to inborn knowledge through reasoning, a philosophical position called **rationalism**.

Though Aristotle accepted the importance of reasoning, he was more willing than Plato to accept sensory experience as a source of knowledge—a philosophical position called **empiricism**. Yet, he recognized the frailty of sensory data, as in “Aristotle’s illusion.” To experience this illusion for yourself, cross a middle finger over an index finger and run a pen between them. You will feel two pens instead of one. Aristotle was one of the first thinkers to speculate on psychological topics, as indicated by the titles of his works, including *On Dreams*, *On Sleep and Sleeplessness*, *On Memory and Reminiscence*, and *On the Senses and the Sensed*.

During the early Christian and medieval eras, answers to psychological questions were given more often by theologian philosophers than by secular philosophers like Plato or Aristotle. The dominant Western authority was Saint Augustine (354–430), who lived almost all of his life in what is now Algeria. Augustine wrote of his views on memory, emotion, and motivation in the self-analysis he presented in his classic autobiographical *Confessions*. He also speculated extensively on the nature of dreams (Sirridge, 2005) and anticipated Sigmund Freud by providing insight into the continual battle between our human reason and our animal passions, especially the powerful sex drive (Gay, 1986).

During the Middle Ages, when the Christian West was guided largely by religious dogma and those who dared to conduct empirical studies risked punishment, scientific research became almost the sole province of Islamic intellectuals. The most noteworthy of these was the Persian scientist, physician, and philosopher Abu Ibn Sina (980–1037)—better known in the West as Avicenna—who kept alive the teachings of Aristotle (Afnan, 1958/1980). Avicenna also contributed to our knowledge of medicine, even putting forth a theory of the cause of migraine headaches similar to one of the most influential theories today (Abokrysha, 2009). With the revival of Western intellectual activity in the late Middle Ages, scholars who had access to Arabic translations of the Greek philosophers rediscovered Aristotle. But most of these scholars limited their efforts to reconciling Aristotle’s ideas with Christian teachings.

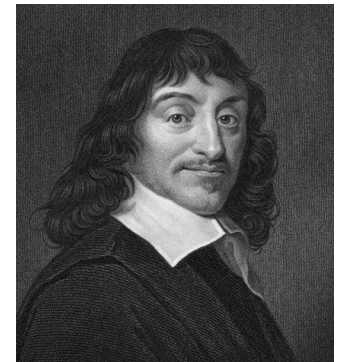
With the coming of the Renaissance, extending from the 14th to the 17th centuries, Western authorities once again relied less on theology and more on philosophy to provide answers to psychological questions. The spirit of the Renaissance inspired René Descartes (1596–1650), the great French philosopher-mathematician-scientist. Descartes, the first of the modern rationalists, insisted that we should doubt everything that is not proven to be self-evident by our own reasoning. In fact, in his famous statement, “I think, therefore I am,” Descartes went to the extreme of using reasoning to prove to his own satisfaction that he existed. Descartes contributed to the modern intellectual outlook, which opposes blind acceptance of proclamations put forth by authorities—religious, political, scientific, or otherwise—unless they are supported by logical arguments (Kisner, 2005). Church leaders felt so threatened by Descartes’s challenge to their authority that they put his works on their list of banned books.

Other intellectuals, though favoring empiricism instead of rationalism, joined Descartes in rejecting the authority of theologians to provide answers to scientific questions. Chief among these thinkers was the English politician-philosopher-scientist Francis Bacon (1561–1626). Bacon inspired the modern scientific attitude that favors skepticism, systematic observation, and verification of scientific claims by other observers (Hearnshaw, 1985). He also was a founder of applied science, which seeks practical applications of research findings. In support of applied science, Bacon asserted, “to be useless is to be worthless.” Ironically, his interest in the application of scientific findings might have cost him his life. While studying the possible use of refrigeration to preserve food, he experimented by stuffing a chicken with snow in frigid weather—and came down with a fatal case of pneumonia.

nativism The philosophical position that heredity provides individuals with inborn knowledge and abilities.

rationalism The philosophical position that true knowledge comes through correct reasoning.

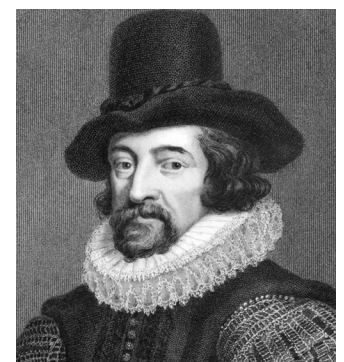
empiricism The philosophical position that true knowledge comes through the senses.



René Descartes (1596–1650)

René Descartes was the first of the modern rationalists.

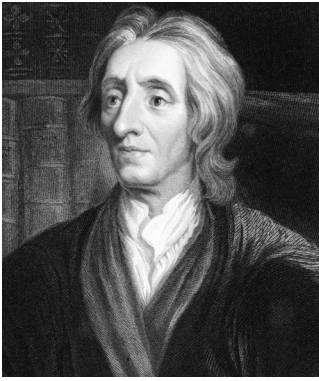
Source: Georgios Kollidas/Shutterstock.com.



Francis Bacon (1561–1626)

Francis Bacon inspired the modern scientific attitude that favors skepticism, systematic observation, and verification of scientific claims by other observers.

Source: Georgios Kollidas/Shutterstock.com.



John Locke (1632–1704)

According to John Locke, each of us is born with a blank slate, or *tabula rasa*.

Source: Georgios Kollidas/Shutterstock.com.

Following in Francis Bacon’s empiricist footsteps was the English philosopher John Locke (1632–1704). According to Locke (borrowing a concept from Aristotle), each of us is born with a blank slate—or *tabula rasa*—on which are written the life experiences we acquire through our senses. Whereas nativists such as Descartes believe that much of our knowledge is inborn, empiricists such as Locke believe that knowledge is acquired solely through life experiences (Gaukroger, 2009). Concern about the relative importance of heredity and life experiences is known as the *nature versus nurture* issue.

Because Locke’s views were incompatible with the belief in the inborn right of certain people to be rulers over others, you can appreciate why Locke’s writings helped inspire the American and French Revolutions. The nature versus nurture issue, a recurring theme in psychological theory and research, appears later in this book in discussions about a host of topics, including language, intelligence, personality, and psychological disorders.

The German philosopher Immanuel Kant (1724–1804) offered a compromise between Descartes’s extreme rationalism and Locke’s extreme empiricism. Kant was the ultimate “ivory tower” intellectual, never marrying and devoting his life to philosophical pursuits. Despite his international acclaim, he never left his home province—and probably never saw an ocean or a mountain (Paulsen, 1899/1963).

Kant taught that knowledge is the product of inborn cognitive faculties that organize and interpret sensory input from the physical environment (Slife, 2005). For example, though your ability to speak a language depends on inborn brain mechanisms, the specific language you speak (whether English or another) depends on experience with your native tongue (Newcombe, 2002).

The Physiological Roots of Psychology

By the 19th century, physiologists were making progress in answering questions about the nature of psychological processes that philosophers were having difficulty answering. As a consequence, intellectuals began to look more and more to physiology for guidance in the study of psychological topics. For example, in the mid-19th century, popular belief, based on reasoning, held that nerve impulses travel the length of a nerve as fast as electricity travels along a wire—that is, almost instantaneously—and were too fast to measure. This claim was contradicted by research conducted by the German physiologist Hermann von Helmholtz (1821–1894), one of the premier scientists of the 19th century (Cahan, 2006). In studying nerve impulses, Helmholtz found that they took a measurable fraction of a second to travel along a nerve. In one experiment, he had participants release a telegraph key as soon as they felt a touch on the foot or thigh. A device recorded their reaction time. Participants reacted more slowly to a touch on the foot than to a touch on the thigh. Helmholtz attributed this difference to the longer distance that nerve impulses must travel from the foot to the spinal cord and then on to the brain. This experiment indicated that nerve impulses are not instantaneous. In fact, Helmholtz found that human nerve impulses traveled at the relatively slow speed of 50 to 100 meters per second. Chapter 5 describes Helmholtz’s pioneering theories on the psychology of vision and hearing.

Helmholtz’s scientific contemporaries made important discoveries about brain functions that likewise could not have been discovered by philosophical speculation. The leading brain researcher was the French physiologist Pierre Flourens (1794–1867), the founder of scientific research on the localization of brain functions (Pearce, 2009). He found, for example, that damage to the cerebellum, a large structure at the back of the brain, caused motor incoordination. Animals with damage to the cerebellum would walk as though they were drunk. This study led him to conclude, correctly, that the cerebellum helps regulate the coordination of movements.

Other 19th-century scientists were more interested in the scientific study of cognitive processes apart from the brain structures that served them. The most notable of these researchers was the German mystic-physician-scientist Gustav Fechner (1801–1887). In his scientific research, Fechner used the methods of **psychophysics**, which was the intellectual offspring of the German physicist Ernst Weber (1795–1878), whose writings influenced Fechner (Marshall, 1990). Fechner, inspired to do so by a daydream, used



Hermann von Helmholtz (1821–1894)

Through experimentation, Hermann von Helmholtz developed pioneering theories on vision and hearing.

Source: Nicku/Shutterstock.com.

psychophysics The study of the relationship between the physical characteristics of stimuli and the conscious psychological experiences that are associated with them.

psychophysical methods to quantify the relationship between physical stimulation and the mental experience of sensation (Heidelberger, 2004).

Psychophysics considers questions such as these: How much change in the intensity of a light is necessary for a person to experience a change in its brightness? And how much change in the intensity of a sound is necessary for a person to experience a change in its loudness? Psychophysics contributed to psychology's maturation from being a child of philosophy and physiology to being an independent discipline with its own subject matter, and it has had important applications. For example, the researchers who perfected television relied on psychophysics to determine the relationship between physical characteristics of the television picture and the viewer's mental experience of qualities such as color and brightness (Baldwin, 1954).

Psychologists of the late 19th century also were influenced by the theory of evolution put forth by the English naturalist Charles Darwin (1809–1882). Darwin announced his theory in *The Origin of Species* (Darwin, 1859/1975), which described the results of research he conducted while studying the plants and animals he encountered during a five-year voyage around the world on HMS *Beagle*. Though thinkers as far back as ancient Greece had proposed that existing animals had evolved from common ancestors, Darwin, along with fellow English naturalist Alfred Russell Wallace (Padian, 2008), was the first to propose a process that could account for it. According to Darwin, through *natural selection* physical characteristics that promote the survival of the individual are more likely to be passed on to offspring because individuals with these characteristics are more likely to live long enough to reproduce.

Darwin's theory had its most immediate impact on psychology through the work of his cousin, the English scientist Francis Galton (1822–1911). In applying Darwin's theory of evolution, Galton argued that natural selection could account for the development of human abilities. Moreover, he claimed that individuals with the most highly developed abilities, such as vision and hearing, would be the most likely to survive long enough to reproduce. This belief led him to found the field of **differential psychology** (Buss, 1976), which studies variations among people in physical, personality, and intellectual attributes. Galton's impact on the study of intelligence is discussed in Chapter 10.

Differential psychology was introduced to North America by the psychologist James McKeen Cattell (1860–1944), who studied with Galton in England. In 1890 Cattell coined the term *mental test*, which he used to describe various tests of vision, hearing, and physical skills that he administered to his students. After being banished from academia for opposing America's entrance into World War I, Cattell started his own business, the Psychological Corporation, which to this day is a leader in the development of tests that assess abilities, intelligence, and personality. Thus, Cattell was a pioneer in the development of psychology as both a science and a profession (Landy, 1997).

The Founding Schools of Psychology

James McKeen Cattell became the first psychology professor in the world (that is, he was the first person to hold such a position independent of an academic biology or philosophy department) when he took a position at the University of Pennsylvania in 1889. Because he assumed his professorship more than a century ago, this supports a remark made by Hermann Ebbinghaus (1850–1909), a pioneer in psychology: "Psychology has a long past, but only a short history" (quoted in Boring, 1950, p. ix). By this, Ebbinghaus meant that though intellectuals have been interested in psychological topics since the era of ancient Greece, psychology did not become a separate discipline until the late 19th century.

Psychologists commonly attribute the founding of this new discipline to the German physiologist Wilhelm Wundt (1832–1920). In 1875 Wundt set up a psychology laboratory at the University of Leipzig in a small room that had served as a dining hall for impoverished students. Wundt's request for a more impressive laboratory had been rejected by the school's administrators, who did not want to promote a science they believed would drive students crazy by encouraging them to scrutinize the contents of their minds (Hilgard, 1987). Beginning in 1879 Wundt's laboratory became the site of formal research

differential psychology The field of psychology that studies individual differences in physical, personality, and intellectual characteristics.



Wilhelm Wundt (1832–1920)

Wilhelm Wundt established the first psychology laboratory at the University of Leipzig in 1875.

Source: Nicku/Shutterstock.com.

conducted by many students who later became some of the most renowned psychologists in the world. Wundt and his students conducted research on topics such as attention, sensation, and reaction time. More than 30 American psychologists, including Cattell, took their PhDs with Wundt (Benjamin, Durkin, Link, Vestal, & Acord, 1992). These students also included G. Stanley Hall (1846–1924), who founded the American Psychological Association in 1892. The growth of the new science was marked by the rise of competing intellectual schools of psychology championed by charismatic leaders, who often were trained in both philosophy and physiology. The earliest schools were *structuralism* and *functionalism*.

Structuralism

structuralism The early psychological viewpoint that sought to identify the components of the conscious mind.

The first approach—**structuralism**—arose in the late 19th century, championed by European psychologists inspired by the efforts of biologists, chemists, and physicists to analyze matter into cells, molecules, and atoms. Following the lead of these scientists, structuralists tried to analyze the mind into its component elements and discover how the elements interact. Structuralism was named and popularized by Wundt's student Edward Titchener (1867–1927). Titchener, an Englishman, introduced structuralism to the United States after receiving his PhD from Wundt in 1892 and then joining the faculty of Cornell University later that year.

analytic introspection A research method in which highly trained participants report the contents of their conscious mental experiences.

To study the mind, he had his participants use **analytic introspection**, a procedure aimed at analyzing complex mental experiences into what he believed were the three basic mental elements: images, feelings, and sensations. In a typical study using analytic introspection, Titchener would present a participant with a stimulus (for example, a repetitive sound produced by a metronome) and then ask the participant to report the images, feelings, and sensations evoked by it. Based on his research, Titchener concluded that there were more than 40,000 mental elements, with the great majority of them visual in nature (Lieberman, 1979).

Among Titchener's contributions was research on the sense of taste, which found that even complex tastes are mixtures of the four basic tastes of sour, sweet, salty, and bitter (Webb, 1981). Despite Titchener's renown, structuralism declined in its influence. This decline was, in part, because structuralism was limited to the laboratory. In fact, Titchener frowned on psychologists who tried to apply the new science of psychology to everyday life (White, 1994).

But the demise of structuralism owed more to its reliance on introspection, which limited it to the study of conscious mental experience in relatively intelligent adults with strong verbal skills. Psychologists also found introspection to be unreliable, because introspective reports in response to a particular stimulus by a given participant were inconsistent from one presentation of the stimulus to another. Similarly, introspective reports in response to the same stimulus were inconsistent from one participant to another. Though the shortcomings of analytic introspection made it fade into oblivion, some psychologists today rely on the related research procedure of having their participants give verbal reports of their mental experience—without necessarily trying to analyze them into their components.

Functionalism

functionalism The early psychological viewpoint that studied how the conscious mind helps the individual adapt to the environment.

Functionalism arose in America chiefly as a response to structuralism. Functionalists criticized the structuralists for limiting themselves to analyzing the contents of the mind. The functionalists preferred, instead, to study how the mind affects what people do. Whereas structuralists might study the mental components of tastes, functionalists might study how the ability to distinguish different tastes affects behavior. This approach reflected the influence of Darwin's theory of evolution, which stressed the role of inherited characteristics in helping the individual adapt to the environment. The functionalists assumed that the mind evolved because it promoted the survival of the individual. Your conscious mind permits you to evaluate your current circumstances and select the best course of action to adapt to them. Recall a time when you tasted food that had gone bad. You quickly spit it out, vividly demonstrating the functional value of the sense of taste.

The most prominent functionalist was the American psychologist and philosopher William James (1842–1910). In his approach to psychology, James viewed the mind as a stream, which, like a stream of water, cannot be meaningfully broken down into discrete elements. Thus, he believed that the mind—or *stream of consciousness*—is not suited to the kind of analytic study favored by structuralists. In 1875, the same year that Wundt established his laboratory at Leipzig, James established a psychology laboratory at Harvard University. But unlike Wundt, James used the laboratory for demonstrations, not for experiments. Instead, he urged psychologists to study how people function in the world outside the laboratory. James and Wundt were so influential that a survey of several major Canadian universities found that half of their psychology faculty members could trace their intellectual lineage through key faculty members back to one of the two (Lubek, Innis, Kroger, McGuire, Stam, & Herrmann, 1995).

Though he conducted few experiments, James made several contributions to psychology. His classic textbook, *The Principles of Psychology* (James, 1890/1981), highlighted the interrelationship of philosophy, physiology, and psychology. The book is so interesting, informative, and beautifully written that it is one of the few psychology books more than a century old still in print. An abridged version of the book, *Psychology: Briefer Course* (James, 1892/1985), became a leading introductory psychology textbook. William James also contributed a theory of emotion (discussed in Chapter 12) that is still influential today (Palencik, 2007). And his views influenced later theories and research in self psychology (Coon, 2000), which is discussed in Chapter 13.

As a group, the functionalists broadened the range of subjects and participants used in psychological research by including animals, children, and people with psychological disorders. The functionalists also expanded the subject matter of psychology to include such topics as memory, thinking, and personality. And unlike the structuralists, who limited their research to the laboratory, the functionalists, in the tradition of Francis Bacon, applied their research to everyday life. The functionalist John Dewey (1859–1952) applied psychology to the improvement of educational practices and remains an influential intellectual figure in educational and developmental psychology (Fallace, 2010). The functionalist who founded the field of applied psychology itself was Hugo Münsterberg (1863–1916), who became a tragic figure in the history of psychology.

In 1892 William James, tiring of the demands of running the psychology laboratory at Harvard, hired Münsterberg, who had earned his PhD under Wilhelm Wundt in 1885 and had become a renowned German psychologist, to take over the laboratory. Münsterberg quickly gained stature in America. During the first decade of the 20th century, Münsterberg was second only to James in his fame as a psychologist. Ironically, though he was hired to run the Harvard psychology laboratory, Münsterberg's main contributions were in applied psychology (Van de Water, 1997). He conducted research, wrote books, and gave talks describing how psychology could be applied to law, industry, education, psychotherapy, and even the study of motion pictures (Bruno, 2009). But Münsterberg experienced extreme stress after being ostracized by his colleagues for trying to promote good relations between America and Germany during the years leading up to World War I (Spillmann & Spillmann, 1993). He died after suffering a stroke he experienced during a class lecture. Because Münsterberg and his functionalist colleagues dared to move psychology out of the laboratory and into the everyday world, they felt the wrath of structuralists, such as Titchener, who insisted that psychology could be a science only if it remained in the laboratory. Titchener established an organization called the Society of Experimentalists in part as a reaction against what he and his supporters saw as the American Psychological Association's movement away from the laboratory (Goodwin, 1985). Despite Titchener's criticisms, most psychologists today would applaud William James and the functionalists for increasing the kinds of research topics, methods, participants, and settings in psychological research (Yanchar, 1997).

James also helped open the door for the entry of women into the discipline of psychology. Most notably, he championed the career of Mary Whiton Calkins (1863–1930), the first prominent female psychologist. In 1903 Calkins, along with Margaret Floy

Washburn, the leading animal psychologist of her time, and Christine Ladd-Franklin, who put forth an early theory of color vision, was included in James McKeen Cattell's influential list of the 50 most eminent American psychologists (O'Connell & Russo, 1990). But being one of James's students did not guarantee Calkins an easy path to a career as a psychologist (Furumoto, 1980).

Though Harvard did not permit women to enroll as matriculated students, Calkins's father, an influential Protestant minister, convinced its president to permit Calkins to audit courses. In her autobiography, Calkins describes being the only student in a course with William James (Calkins, 1930). Evidently, the male students dropped the course rather than attending it with a woman. Though Calkins completed all the coursework and the doctoral dissertation required for a doctoral degree, Harvard's administration refused the recommendation of her faculty sponsor, Hugo Münsterberg, that she be awarded the PhD in 1896. James had even called her oral defense of her doctoral dissertation "the most brilliant examination for the PhD that we have had at Harvard." Psychologists and student activists have continued to submit proposals to the Harvard administration for a posthumous PhD to be awarded to Calkins but to date have not been successful (Boatwright & Nolan, 2005).

Despite never receiving her doctorate, Calkins became a successful psychologist. She founded the psychology laboratory at Wellesley College, began the scientific study of dreams, invented the paired-associate technique of assessing memory, and wrote one of the first introductory psychology textbooks (Calkins, 1901). She spent most of her career developing her theory of self psychology, which viewed psychology as the empirical study of the person in conscious interaction with the environment (McDonald, 2007). In 1905 she became the first female president of the American Psychological Association. In 1918, Calkins, also a renowned philosopher, became the first female president of the American Philosophical Association. Calkins would be pleased that today many women earn doctoral degrees in psychology each year. In fact, more women than men now earn doctoral degrees in psychology (Denmark, 1998).

The Growth of Psychology

Structuralism and functionalism were soon joined by other intellectual schools of psychology, which included *Gestalt psychology*, *psychoanalysis*, and *behaviorism*. These schools broadened the subject matter, methodology, and applications of psychology. Though they were somewhat influenced by structuralism and functionalism, they became more influential than those two founding schools.

Gestalt Psychology

The structuralists' attempt to analyze the mind into its component parts was countered by the German psychologist Max Wertheimer (1880–1943), who founded **Gestalt psychology**. Wertheimer used the word *gestalt*, meaning "form" or "shape," to underscore his belief that we perceive wholes rather than combinations of individual elements. A famous tenet of Gestalt psychology asserts that "the whole is different from the sum of its parts" (Wertheimer & King, 1994). Because of this basic assumption, Wertheimer ridiculed structuralism as "brick-and-mortar psychology" for its attempt to analyze mental experience into discrete elements.

The founding of Gestalt psychology can be traced to a train trip taken by Wertheimer in 1912, when he daydreamed about the **phi phenomenon**, which involves seeing apparent motion in the absence of actual motion (as in a motion picture at a movie theater). At a stop, Wertheimer left the train and bought a toy stroboscope, which, like a motion picture, produces the illusion of movement by rapidly presenting a series of pictures that are slightly different from one another. On returning to his laboratory, he continued studying the phi phenomenon by using a more sophisticated device called a tachistoscope, which flashes visual stimuli for a fraction of a second. Wertheimer had the tachistoscope flash two lines in succession, first a vertical one and then a horizontal one. When the interval between flashes was just right, a single line appeared to move from a vertical to a horizontal orientation.

Gestalt psychology The early psychological viewpoint that claimed that we perceive and think about wholes rather than simply combinations of separate elements.

phi phenomenon Apparent motion caused by the presentation of different visual stimuli in rapid succession.

According to Wertheimer, the phi phenomenon shows that the mind does not respond passively to discrete stimuli, but instead organizes stimuli into coherent wholes. Thus, perception is more than a series of individual sensations. This conclusion is in keeping with Immanuel Kant's notion of the mind as an active manipulator of environmental input. If your mind only responded passively to discrete stimuli, when you observed Wertheimer's tachistoscope demonstration, you would first see the vertical line appear and disappear and then see the horizontal line appear and disappear. Gestalt psychology gave a new direction to psychology by stressing the active role of the mind in organizing sensations into meaningful wholes (Feest, 2007).

Though Wertheimer founded Gestalt psychology, it was popularized by his colleagues Kurt Koffka (1886–1941), the most prolific and influential writer among the Gestalt psychologists, and Wolfgang Köhler (1887–1967), who promoted Gestalt psychology as a natural science (Henle, 1993) and applied it to the study of problem solving. Koffka and Köhler introduced Gestalt psychology to the United States after fleeing Nazi Germany. Köhler, a Christian college professor, had provoked the Nazis by writing and speaking out against their persecution of his Jewish colleagues (Henle, 1978). He became a respected psychologist and in 1959 was elected president of the American Psychological Association.

Psychoanalysis

Unlike the other early approaches to psychology, which originated in universities, **psychoanalysis** originated in medical science. Sigmund Freud (1856–1939), the founder of psychoanalysis, was an Austrian neurologist who considered himself “a conquistador of the mind” (Gay, 1988). Freud noted that his theory, which views the human species as animals first and foremost, owed a debt to Darwin's theory of evolution. Psychoanalysis grew, in part, from Freud's attempts to treat patients suffering from physical symptoms, such as paralyzed legs, inability to speak, or loss of body sensations, that had no apparent physical causes. Based on his treatment of patients suffering from such symptoms of conversion hysteria, Freud concluded that the disorder was the result of unconscious psychological conflicts about sex caused by early sexual trauma or cultural prohibitions against sexual enjoyment (Guttman, 2006). These conflicts were “converted” into the physical symptoms seen in conversion hysteria, which might even provide the patient with an excuse to avoid engaging in the taboo behaviors.

Freud's case studies led him to infer that unconscious conflicts, usually related to repressed sexual or aggressive feelings that might elicit disapproval from one's self or

psychoanalysis The early school of psychology that emphasized the importance of unconscious causes of behavior.



“It goes back to being pulled out of the hat.”

Psychoanalysis

Sigmund Freud established psychoanalysis.

Source: Cartoonresource/Shutterstock.com.

psychic determinism The Freudian assumption that all human behavior is influenced by unconscious motives.

others, were prime motivators of human behavior. Freud believed that all behavior—whether normal or abnormal—was influenced by psychological motives, often unconscious ones. This belief is called **psychic determinism**. In his book *The Psychopathology of Everyday Life*, Freud (1901/2011) explained how even apparently unintentional behaviors could be explained by psychic determinism. Psychic determinism explains misstatements, popularly known as “Freudian slips,” that arise when an unconscious wish overcomes the desire not to reveal it, as in the case of the radio announcer who began a bread commercial by saying, “For the breast in bed . . . I mean, for the best in bread . . .” As a leading psychologist observed, the concept of psychic determinism meant that “the forgotten lunch engagement, the slip of the tongue, the barked shin could no longer be dismissed as accident” (Bruner, 1956, p. 465).

In addition to shocking the public of the Victorian era by claiming that people are motivated chiefly by unconscious—often sexual—motives, Freud made the controversial claim that early childhood experiences were the most important factors in personality development. Freud believed that memories of early childhood experiences stored in the unconscious mind continue to affect behavior throughout one’s life. According to Freud, these unconscious influences explain the irrationality of much human behavior and the origins of psychological disorders.

Freudian psychoanalysis was so extraordinarily influential that a survey of chairs of graduate psychology departments found that they considered Freud to be the most important figure in psychology’s first century (Davis, Thomas, & Weaver, 1982). Nonetheless, critics have pointed out that the unconscious mind can be too easily used to explain any behavior for which there is no obvious cause. William James had expressed this concern even before Freud’s views had become known. James warned that the unconscious “is the sovereign means for believing whatever one likes in psychology and of turning what might become a science into a tumbling ground for whimsies” (James, 1890/1981, Vol.1, p.166).

Psychoanalysis also has been subjected to criticism for failing to provide adequate research evidence for its claims of the importance of sexual motives, unconscious processes, and early childhood experiences (Dufresne, 2007). Other critics claim that Freud’s theory focuses on the male experience and thus has less relevance to women’s lives (Masling, Bornstein, Fishman, & Davila, 2002). Moreover, Freud never tested his theory experimentally. Instead, he based his theory on notes written after seeing patients, which made his conclusions subject to his own memory lapses and personal biases. Moreover, Freud violated good scientific practice by generalizing to all people the results of his case studies of a relative handful of people with psychological disorders.

Despite these shortcomings, Freud’s views have influenced the psychological study of topics as diverse as dreams, creativity, motivation, development, personality, psychopathology, and psychotherapy. Freud’s views have also inspired the works of artists, writers, and filmmakers, including Eugene O’Neill’s play *Mourning Becomes Electra* (1931) and the classic science fiction film *Forbidden Planet* (1956). Freud’s contributions to a variety of psychological topics are discussed in several other chapters.

The decline of strictly Freudian psychoanalysis began when two of Freud’s followers, Carl Jung (1875–1961) and Alfred Adler (1870–1937), developed psychoanalytic theories that contradicted important aspects of Freud’s theory. Jung, Adler, and other so-called neo-Freudians placed less emphasis on the biological drives of sex and aggression and more emphasis on the importance of social relationships. Jung developed his own theory of personality, which included the concepts of the inner-directed *introvert* and the outer-directed *extravert*. Adler based his personality theory on his belief that each of us tends to compensate for natural childhood feelings of inferiority by striving for superiority, as in the case of students who study long hours to earn the necessary grades for admission to medical school, or athletes who train for Olympic competition. Other neo-Freudians also contributed to the psychoanalytic approach. Anna Freud (1895–1982), Sigmund Freud’s daughter, was a leader in the field of child psychoanalysis, as was her intellectual rival Melanie Klein (1882–1960), who developed the technique of play therapy. The views of influential neo-Freudians are discussed in later chapters, particularly in Chapters 13.

Behaviorism

In 1913 a leading functionalist published an article entitled “Psychology as the Behaviorist Views It.” It included the following proclamation:

Psychology as the behaviorist views it is a purely objective experimental branch of natural science. Its theoretical goal is the prediction and the control of behavior. Introspection forms no essential part of its methods, nor is the scientific value of its data dependent on the readiness with which they lend themselves to interpretation in terms of consciousness. (Watson, 1913, p. 158)

This bold statement by the American psychologist John B. Watson (1878–1958) heralded the rise of **behaviorism**, an approach to psychology that dominated the discipline for half a century. He was influenced by Russian physiologist Ivan Pavlov (1849–1936), whose work he helped introduce to North American psychology (Buckley, 1989). Watson rejected the position shared by structuralists, functionalists, Gestalt psychologists, and psychoanalysts that the mind is the proper object of study for psychology. He and other behaviorists were emphatic in their opposition to the study of mental experience. Though Watson was fascinated by Freud’s theory, like William James, he rejected the notion that unconscious cognitive processes could motivate human behavior.

To Watson, the proper subject matter for psychological research was observable behavior. Unlike mental experiences, overt behavior can be recorded and subjected to verification by other scientists. For example, some psychologists might study the mental experience of hunger, but behaviorists would prefer to study the observable behavior of eating. Though Watson denied that cognitive processes could cause behaviors, he did not deny the existence of the mind. Thus, he would not have denied that people have the mental experience called “hunger,” but he would have denied that the mental experience of hunger causes eating (Moore, 1990). Instead, he would have favored explanations of eating that placed its causes in the body (such as low blood sugar) or in the environment (such as a tantalizing aroma) instead of in the mind (such as feeling famished or craving a specific food).

Watson impressed his fellow psychologists enough to be elected president of the American Psychological Association in 1915. Watson was an attractive and charismatic person who popularized his brand of psychology by giving speeches and writing books and articles. Though he wrote about both heredity and environment, he placed great faith in the effect of environmental stimuli on the control of behavior, especially children’s behavior (Horowitz, 1992). His “stimulus-response” psychology placed him firmly in the empiricist tradition of John Locke and is best expressed in his famous pronouncement on child development:

Give me a dozen healthy infants, well-formed, and my own specified world to bring them up in and I’ll guarantee to take any one at random and train him to become any type of specialist I might select—doctor, lawyer, artist, merchant-chief and, yes, even beggar man and thief, regardless of his talents, penchants, tendencies, abilities, vocations, and race of his ancestors. (Watson, 1930, p. 104)

Apparently, no parents rushed to offer their infants to be trained by Watson. Nonetheless, his views on child rearing became influential. Despite some of their excessive claims, behaviorists injected optimism into psychology by fostering the belief that people are minimally limited by heredity and easily changed by experience. In favoring nurture over nature, behaviorists assumed that people, regardless of their hereditary background, could improve themselves and their positions in life. Watson and his fellow behaviorists were more than willing to suggest ways to bring about such improvements. Watson even hoped to establish a utopian society based on behavioristic principles (Morawski, 1982).

Behaviorism dominated psychology through the 1960s (O’Neil, 1995). In fact, from 1930 to 1960 the term *mind* rarely appeared in psychological research articles (Mueller, 1979). But since then, the mind has returned as a legitimate object of study. The weakened influence of orthodox behaviorism is also shown by renewed respect for the constraints that heredity places on learning (a topic discussed in Chapter 7).

behaviorism The psychological viewpoint that rejects the study of mental processes in favor of the study of overt behavior.

Watson's intellectual descendent was the American psychologist B. F. Skinner (1904–1990). As a young man, Skinner pursued a career as a writer and even spent six months living in Greenwich Village, New York, to soak up its creative Bohemian atmosphere. After discovering that he was not cut out to be a fiction writer and after being excited by the writings of John B. Watson, Skinner decided to become a psychologist (Keller, 1991). Though he eventually became a prominent figure in 20th-century psychology, second only to Sigmund Freud (Rutherford, 2000), it took many years for him to achieve that standing. His landmark book, *The Behavior of Organisms* (which had been published in 1938), sold only 80 copies by the end of World War II in 1945.

Like Watson, Skinner urged psychologists to ignore mental processes and to limit psychology to the study of observable behavior. He and other behaviorists insisted that psychology could not be on a scientific par with other natural sciences if psychologists tried to make it the study of mental experiences. Many behaviorists still refuse to treat verbal reports of mental experiences as appropriate subject matter for psychological research.

In contrast to Watson, Skinner stressed the role of the consequences of behavior, rather than environmental stimuli, in controlling behavior. He noted that animals and people tend to repeat behaviors that are followed by positive consequences. Consider your performance in school. If your studying (a behavior) pays off with an A on an exam (a positive consequence), you will be more likely to study in the future. In Skinner's terms, your behavior has been "positively reinforced."

Skinner, like Watson, was a utopian. In 1948 Skinner—showing that he did, in fact, have the ability to write fiction—published *Walden Two*, a novel that describes an ideal society based on behaviorist principles. In Skinner's utopia, benevolent behaviorists control the citizens by providing positive consequences for desirable behaviors. Several communities, most notably Twin Oaks in Louisa, Virginia, and Los Horcones near Hermosillo, Mexico, were founded on principles presented in *Walden Two* (Kuhlmann, 2005). Though there is still no behavioral utopia, the behavioral perspective has contributed to improvements in education, child rearing, industrial productivity, and therapy for psychological disorders. These topics are discussed in later chapters.

Despite Skinner's efforts, the influence of orthodox behaviorism has faded in recent years in the face of growing dissatisfaction with the lack of attention orthodox behaviorists give to cognitive processes. This dissatisfaction has prompted some behaviorists to study the relationship between cognitive processes such as thoughts or mental images, which cannot be directly observed, and overt behavior, which can. These psychologists are called cognitive behaviorists. One of their most influential leaders has been Albert Bandura (2001), who has noted that we can learn by observing as well as by doing. The views of Skinner and Bandura are discussed further in Chapter 7. Despite the rise of cognitivism, behaviorism remains a powerful force in psychology (Leigland, 2000).

Table 1-1 summarizes the major characteristics of the early perspectives of psychology.

TABLE 1-1 Major Psychological Perspectives

Perspective	Object of Study	Goal of Study	Method of Study
Structuralism	Conscious experience	Analyzing the structure of the mind	Analytic introspection
Functionalism	Conscious experience	Studying the functions of the mind	Introspection and testing
Gestalt	Conscious experience	Demonstrating the active, holistic nature of the mind	Introspection and demonstrations
Psychoanalysis	Unconscious motivation	Studying unconscious motives of behavior	Clinical case studies
Behaviorism	Observable behavior	Controlling behavior	Observation and experiments

Section Review: The Historical Context of Psychology

1. How did the work of 19th-century scientists lead to the emergence of psychology as a science?
2. What were the contributions of functionalism to psychology?
3. What was Gestalt psychology's main criticism of structuralism?
4. What prompted the emergence of behaviorism?

Contemporary Perspectives in Psychology

According to Thomas Kuhn (1970), an influential philosopher of science, as a science matures, it develops a unifying **scientific paradigm**, or model, that determines its appropriate goals, methods, and subject matter. Though, as you have just read, psychology has been influenced by different approaches, the discipline still lacks a unifying scientific paradigm to which most psychologists would subscribe (Shapiro, 2005). Instead, diverse psychological perspectives exist, in addition to the psychoanalytic, behavioristic, and humanistic perspectives. The past half century has seen the emergence of three highly influential new perspectives—the *humanistic perspective*, the *cognitive perspective*, and the *biopsychological perspective*—as well as, more recently, the *sociocultural perspective*.

scientific paradigm A model that determines the appropriate goals, methods, and subject matter of a science.

The Humanistic Perspective

Because it provided the first important alternative to the highly influential psychoanalytic and behavioral perspectives, the **humanistic perspective** has been called the “third force” in psychology (Cosgrove, 2007). It was founded in the 1950s by the American psychologists Abraham Maslow (1908–1970) and Carl Rogers (1902–1987) to promote the idea that people have free will and are not merely pawns in the hands of unconscious motives or environmental stimuli. Maslow, who served as president of the American Psychological Association in 1967, had begun as a behaviorist but later rejected what he saw as behaviorism's narrow focus on observable behavior and the effects of the environment. He stressed people's natural tendency toward *selfactualization*, which was his term for the fulfillment of one's potentials.

humanistic perspective The psychological viewpoint that holds that the proper subject matter of psychology is the individual's subjective mental experience of the world.

Rogers echoed Maslow, and both assumed that the subject matter of psychology should be the individual's unique subjective mental experience of the world. In favoring the study of mental experience, Maslow and Rogers showed their intellectual kinship to William James. Though Maslow and Rogers considered subjective mental experience to be one of several important aspects of humanistic psychology, the study of subjective mental experience is the overriding focus of the branch of humanistic psychology called **phenomenological psychology**. For example, phenomenological psychologists might study the mental experience of depression (Slavik & Croak, 2006) as opposed to behaviors exhibited by depressed people or the brain factors or unconscious motives that may underlie depression. And humanistic psychology's assumption that people have free will is central to **existential psychology**. This branch of humanistic psychology favors the study of how people respond to the basic givens of reality, including the responsibility of personal freedom, the isolation of one person from another, the need to find meaning in one's life, and the realization that we eventually will die.

phenomenological psychology A branch of humanistic psychology primarily concerned with the study of subjective mental experience.

Humanistic psychology has been a prime mover in the field of psychotherapy, most notably through the efforts of Carl Rogers. His person-centered therapy, one of the chief kinds of psychotherapy, is discussed in Chapter 15. Though person-centered therapy has been the subject of extensive scientific research, other aspects of humanistic psychology, such as techniques that promote personal “growth experiences” and “consciousness raising,” have been criticized for having little scientific support (Wertheimer, 1978). This

existential psychology A branch of humanistic psychology that studies how individuals respond to the basic philosophical issues of life, such as death, meaning, freedom, and isolation.

lack of scientific rigor might be one reason why humanistic psychology has had only a relatively minor impact on academic psychology, a fact lamented by Rogers (1985) near the end of his life. Despite its scientific shortcomings, humanistic psychology has made a valuable contribution in promoting the study of positive aspects of human experience, including love, altruism, and healthy personality development. Moreover, many humanistic psychologists have become more willing to use experimentation to test their theories (Koole, Greenberg, & Pyszczynski, 2006)

The Cognitive Perspective

cognitive perspective The psychological viewpoint that favors the study of how the mind organizes perceptions, processes information, and interprets experiences.

In his presidential address to the American Psychological Association, Wolfgang Köhler (1959) urged Gestalt psychologists and behaviorists to create a psychology that included the best aspects of both their schools. Psychologists who favor the *cognitive approach* have followed Köhler's advice, beginning with the "cognitive revolution" in psychology that began in the late 1950s. This revolution was largely provoked by the perceived shortcomings of behaviorism (Proctor & Kim-Phuong, 2006)—leading to the emergence of a **cognitive perspective**, which combines aspects of Gestalt psychology and the behavioral perspective (Simon, 1995). Like Gestalt psychologists, cognitive psychologists stress the active role of the mind in organizing perceptions, thinking, forming memories, and interpreting experiences. And like behavioral psychologists, cognitive psychologists stress the need for objective, well-controlled, laboratory studies. Thus, cognitive psychologists infer the presence of cognitive processes from observable responses without relying on verbal reports alone. But unlike strict behavioral psychologists, who claim that cognitive processes such as thoughts cannot affect behavior, many cognitive psychologists believe they can.

The cognitive perspective is illustrated in the work of the Swiss biologist-psychologist Jean Piaget (1896–1980), who put forth a cognitive theory of the child's mental development based on his interviews with children as they solved various problems. For example, he studied developmental changes in children's understanding of physical causality (Chandler, 2009). Piaget's research is discussed in Chapter 4. The cognitive perspective also has been influenced by the computer revolution that began in the 1950s, which stimulated research on the human brain as an information processor. A leader in this field was Herbert Simon (1916–2001), a psychologist who won the 1978 Nobel Prize in economics, the field in which he worked early in his career (Anderson, 2001). Some cognitive psychologists use computer programs to create models of human thought processes; others use their knowledge of human thought processes to improve computer programs, like those for computer chess games.

Beginning about 1980, the cognitive perspective surpassed the behavioral perspective and the psychoanalytic perspective in its influence on psychology (Robins, Gosling, & Craik, 1999). As you will realize while reading upcoming chapters, the cognitive perspective pervades almost every field of psychology. For example, the concept of cognitive schemas, or specialized knowledge structures, has been applied to the study of human development, memory, thought and language, social behavior, and personality.

The Biopsychological Perspective

biopsychological perspective The psychological viewpoint that stresses the relationship of physiological factors to behavior and mental processes.

Though several of the early approaches to psychology had their roots in 19th-century physiology, until relatively recently there was never a strictly biopsychological approach to psychology. But growing interest in the biological basis of behavior and cognitive processes, combined with the development of sophisticated research equipment, has led to the emergence of a **biopsychological perspective**. Psychologists who favor this perspective are interested in studying the brain, the hormonal system, and the effects of heredity on psychological functions. Though most biopsychology researchers rely on animals as subjects, some of their most important studies have used human participants. For example, in the course of surgery on the brains of epilepsy victims to reduce their seizures, the Canadian neurosurgeon Wilder Penfield (1891–1976) mapped the brain by using weak



Left brain versus right brain

Human and animal brains have somewhat different psychological functions.

Source: Macrovector/Shutterstock.com.

electrical currents to stimulate points on its surface. He found that stimulation of particular points on one side of the brain caused movements of particular body parts on the opposite side.

One branch of the biopsychological perspective is cognitive neuroscience, which studies topics such as the neurological bases of emotional memory (Labar & Cabeza, 2006), mental giftedness (Kalbfleisch, 2008), and attention deficit hyperactivity disorder (Vaidya & Stollstorff, 2008). Use of functional MRI (fMRI) to provide scans of ongoing brain activity has helped advance research in cognitive neuroscience (Poldrack & Wagner, 2008). In 1981 the American biopsychologist Roger Sperry (1913–1994) was awarded a Nobel Prize for his studies of the functions of the left and right brain hemispheres of epilepsy patients whose hemispheres had been surgically separated to reduce their seizures (Berlucchi, 2006). In conducting research on the brain in the 1960's, Sperry and his colleagues found that each hemisphere was somewhat superior to the other in performing particular psychological functions. Results indicated that the left side of the brain is somewhat better at performing analytical and verbal tasks whereas the right side of the brain is somewhat better at performing spatial abilities and perceiving complex sounds such as music. Chapter 3 describes the research of Penfield, Sperry, and other contributors to biopsychology. Because of the increasing influence of this perspective, psychology might be moving toward an even broader definition as “the science of behavior and cognitive processes, and the physiological processes underlying them.”

Some biopsychologists work in the field of **behavioral genetics**, which studies the relative influence of hereditary and environmental factors on human and animal behavior, such as the genetic bases of autism (Moy & Nadler, 2008) and psychological depression (Crowley & Lucki, 2006). Chapter 3 discusses the use of behavioral genetics in explaining differences in human intelligence and personality. Many of those who study the role of heredity rely on Charles Darwin's theory of evolution as the inspiration for their research. They champion the relatively new approach, based upon Darwinian principles and descended from functionalism, called **evolutionary psychology** (Barker, 2006). For example, evolutionary psychologists interpret some gender differences in social behavior to be the product of natural selection (Nicolson, 2002), in which traits and behaviors that have had survival value for men and women are passed from generation to generation. According to evolutionary psychology, men tend to be more physically aggressive than women in large part because physical aggression has had greater survival value for men than for women. Chapter 3 presents a study by evolutionary psychologist David Buss and his colleagues (1992) on the possible evolutionary basis of gender differences in sexual and emotional jealousy. And Chapter 17 considers evolutionary psychology's explanation

behavioral genetics The study of the relative effects of heredity and life experiences on behavior.

evolutionary psychology The study of the evolution of behavior through natural selection.

of gender differences in the attributes that women and men find attractive in potential romantic partners.

The Sociocultural Perspective

sociocultural perspective The psychological viewpoint that favors the scientific study of human behavior in its sociocultural context.

Though Wilhelm Wundt is most famous for founding psychology as a laboratory science, he stressed the importance of considering sociocultural influences on human psychology (Cahan & White, 1992). In fact, his 10-volume *Folk Psychology*, which was published during the years 1900 to 1920, anticipated the **sociocultural perspective**. This perspective has developed as a reaction against what its proponents believe is the unfortunate tendency to presume that psychological research findings, obtained chiefly from research conducted in Europe and North America, are always generalizable to other cultures and other social groups. As two leading sociocultural psychologists have commented:

The typical psychology text contains hundreds of concepts, terms, and theories. . . . Most of these abstractions are used as if it has already been established that they are applicable everywhere. This is a premature if not dangerous assumption to make. (Lonner & Malpass, 1994, p. 2)

Throughout this text you will read about studies that have attempted to determine whether research findings obtained in one culture are, in fact, applicable to other cultures. Also, you will read about studies of the influence of sociocultural variables such as gender, ethnicity, and sexual orientation on the many aspects of human behavior and thought processes studied by psychologists. Harry Triandis (1990), one of the founders of the sociocultural perspective, takes a position that would be favored by functionalists. He suggests that we avoid ethnocentrism (viewing other cultures by using our own as the ideal standard of comparison) and, instead, view each culture as the outcome of attempts by its members to adapt to particular ecological niches. Then we would realize that, had we been born in another culture, our behavior and our views about what is normal and desirable might fit that culture's norms.

What has accounted for the relatively recent surge of interest in the sociocultural perspective? Perhaps the greatest influence has been the “shrinking” of our planet. Today people on opposite sides of the world can communicate instantly with one another using a variety of means, including telephone, radio, television, and the Internet. Other factors include tourism, immigration, international trade, and ethnic conflict. Thus, it behooves people from different cultures to be less ethnocentric so they can better understand one another.

cross-cultural psychology An approach that tries to determine the extent to which research findings about human psychology hold true across cultures.

But supporters of the sociocultural perspective take a variety of approaches to conducting their research. Some study **cross-cultural psychology**. Cross-cultural psychologists employ research methods designed to compare two or more cultures in an attempt to discover the degree to which psychological principles can be generalized across cultures. Cross-cultural psychologists study topics such as sociocultural factors involved in eating habits (Rozin, 2005), attitudes toward psychotherapy (Digiuni, Jones, & Camic, 2013), and psychological disorders such as depression in elderly women and men (Tiedt, 2013). Related to this topic is one of the central issues in cross-cultural psychology: *relativism* versus *universalism*. Whereas relativists stress the importance of identifying psychological differences across cultures and tend to support tolerance of differences, universalists stress the importance of identifying psychological commonalities across cultures and tend to stress universal phenomena.

multicultural psychology The field that studies psychological similarities and differences across the subcultures that commonly exist within individual countries.

The sociocultural perspective also has given rise to **multicultural psychology**, which studies psychological similarities and differences across the subcultures that commonly exist within individual countries. For example, the American Psychological Association and the American Counseling Association formally support the desirability of psychological counselors to have multicultural competencies to be able to deal effectively with clients from diverse cultural backgrounds (Cokley & Rosales, 2005).

cultural psychology An approach that studies how cultural factors affect human behavior and mental experience.

Other psychologists believe that human behavior and cognitive processes are so molded by culture that we should be most concerned with studying how culture influences human behavior and cognitive processes. This approach is called **cultural psychology**, which

includes, for example, research on how culture influences child development (Quintana et al., 2006). A related field, **ethnic psychology**, employs sociocultural methods to describe the experience of members of groups that have been historically underrepresented in psychology. For example, ethnic psychologists Mamie Phipps Clark, Kenneth B. Clark, and William E. Cross Jr. have studied the relationship between African Americans' self-concept and their mental health (Lal, 2002).

ethnic psychology The field that employs culturally appropriate methods to describe the experience of members of groups that historically have been underrepresented in psychology.

Section Review: Contemporary Psychological Perspectives

1. In what way does the cognitive approach combine aspects of Gestalt psychology and behaviorism?
2. What are three areas of interest to psychologists who favor the biopsychological perspective?
3. Why has the sociocultural perspective become influential?

The Scope of Psychology

As psychology has evolved as a science, its fields of specialization have multiplied, and its educational and training requirements have become formalized. Today psychologists work in a wide variety of academic and professional settings (see Figure 1-1). Psychologists are so committed to the study of human behavior that some even study the factors associated with choosing to become an academic psychologist devoted mainly to teaching and research or a professional psychologist devoted mainly to applying psychology in practical settings (Leong, Zachar, Conant, & Tolliver, 2007).

But how does one go about becoming a psychologist? Psychologists first earn a bachelor's degree, preferably, but not necessarily, in psychology. Earning a master's-level degree takes up to two years of additional schooling. Those who pursue a doctorate (PhD or PsyD) in psychology generally take 6 years or so beyond the bachelor's degree to do so. Those who pursue doctorates in clinical or counseling psychology complete internships and typically

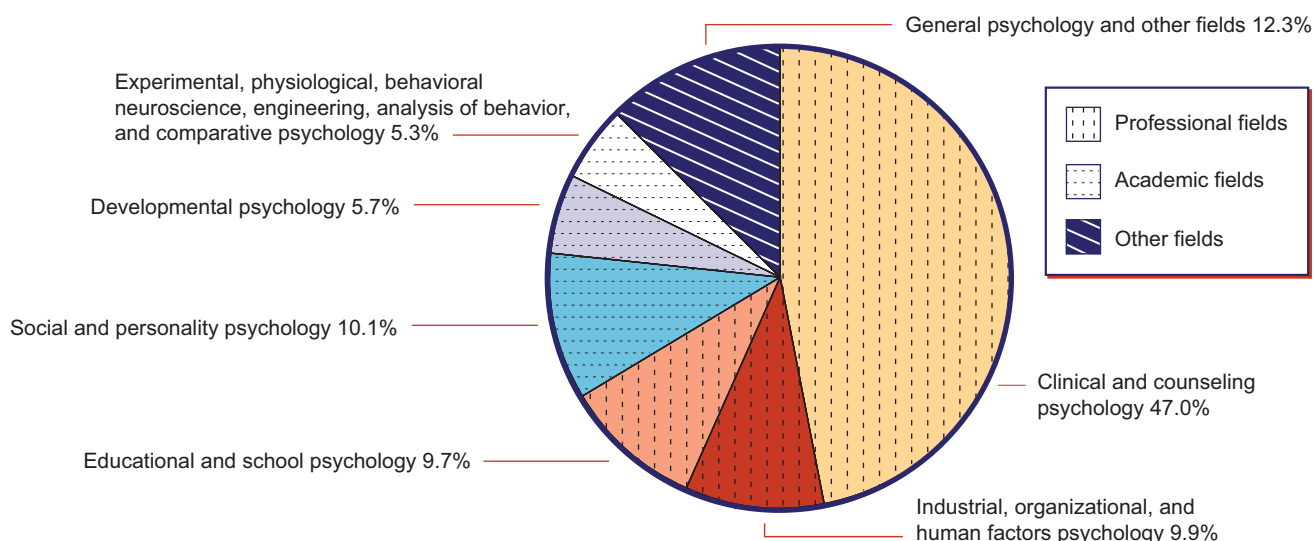
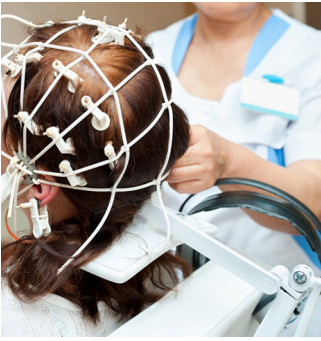


FIGURE 1-1 Fields of Specialization in Psychology

This graph presents the percentages of members of the American Psychological Association working in major fields of specialization.

Source: Data from the American Psychological Association (2014). Division Profiles by Division [Online] <http://www.apa.org/about/division/officers/services/profiles.aspx>



Behavioral Neuroscience

Psychologists in the field of behavioral neuroscience study the biological bases of behavior and cognitive processes.

Source: withGod/Shutterstock.com.

basic research Research aimed at finding answers to questions out of theoretical interest or intellectual curiosity.

applied research Research aimed at improving the quality of life and solving practical problems.

experimental psychology The field primarily concerned with laboratory research on basic psychological processes, including perception, learning, memory, thinking, language, motivation, and emotion.

behavioral neuroscience The field that studies the physiological bases of human and animal behavior and mental processes.

comparative psychology The field that studies similarities and differences in the physiology, behaviors, and abilities of different species of animals, including human beings.

write a dissertation based on an original research study that they conduct. Some undergraduate psychology departments offer courses devoted to discussing career options in psychology and planning how to pursue a career in psychology (Macera & Cohen, 2006).

Academic Fields of Specialization

Most of the chapters in this book discuss academic fields of specialization in psychology, usually practiced by psychologists working at colleges or universities. In fact, colleges and universities are the main employment settings for psychologists. Because each field of psychology contains subfields, which in turn contain sub-subfields, a budding psychologist has hundreds of potential specialties from which to choose. For example, a psychologist specializing in the field of sensation and perception might be interested in the subfield of vision, with special interest in the sub-subfield of color vision.

Psychology researchers typically conduct either **basic research**, which is aimed at contributing to knowledge, or **applied research**, which is aimed at solving a practical problem. Note that basic research and applied research are not mutually exclusive, and many psychologists conduct both kinds of research. Findings from basic research can often be applied outside the laboratory. For example, psychologists have taken basic research findings on the interactive effects of alcohol and nicotine as the basis for treatment programs for individuals who are dependent on both alcohol and nicotine (Rohsenow, 2005).

The largest field of academic specialization in psychology is **experimental psychology**. Experimental psychologists restrict themselves chiefly to laboratory research on basic psychological processes, including perception, learning, memory, thinking, language, motivation, and emotion. Though this field is called experimental psychology, it is not the only field that uses experiments. Psychologists in almost all fields of psychology conduct experimental research.

Consider some of the topics tackled by experimental psychologists that will be discussed in upcoming chapters. Chapter 5 describes how perception researchers determine whether people can identify other individuals by their odor. Chapter 8 explains how memory researchers assess the effect of people's moods on their ability to recall memories. And Chapter 12 discusses how emotion researchers demonstrate the effect of facial expressions on emotional experiences.

Psychologists in the field of **behavioral neuroscience** study the biological bases of behavior and cognitive processes. Chapter 3 discusses research by behavioral neuroscientists on the effects of natural opiates in the brain and the differences in functioning between the left and right hemispheres of the brain. In Chapter 6 you will learn of research by behavioral neuroscientists on the effects of psychoactive drugs on mind and behavior.

The related field of **comparative psychology** studies similarities and differences in the physiology, behaviors, and abilities of animals, including the human species. The field



Comparative Psychology

The field of comparative psychology is particularly concerned with studying how evolution has led to animals adapting their behavior to different ecological niches.

Source: Tratong/Shutterstock.com.

is particularly concerned with studying how evolution has led to animals adapting their behavior to different ecological niches (Tobach, 2006). Comparative psychologists study motives related to eating, drinking, aggression, courtship, sexual behavior, and parenting. Chapter 9 discusses how comparative psychologists study whether apes can learn to use language.

The field of **developmental psychology** is home to psychologists who study the factors responsible for physical, cognitive, and social changes across the life span. Research in developmental psychology has found, for example, that undergraduate students who report having had a lack of affectionate touching by parents in childhood are more prone to depression and problems in romantic relationships (Takeuchi et al., 2010). Chapter 4 presents research showing that infants are born with better perceptual skills than you might assume and that many gender differences might be smaller than is commonly believed.

Personality psychology is concerned with differences in behavior among individuals. As noted in Chapter 13, this field seeks answers to questions such as these: Are our personalities determined more by nature or by nurture? And to what extent do people behave consistently from one situation to another? Personality psychologists also devise tests for assessing personality, such as the famous Rorschach “inkblot test.”

Psychologists in the field of **social psychology** study the effects people have on one another and the power of social situations. In Chapter 17 you will learn how social psychologists study the factors that influence interpersonal attraction, the problem of “group-think” in making important decisions, and the reasons why people are often all too willing to follow orders to harm others.

Professional Fields of Specialization

Professional psychologists commonly work in settings outside college or university classrooms and laboratories. Undergraduates are often surprised at the variety of professional fields of psychology (Stark-Wroblewski, Wiggins, & Ryan, 2006). Two of the largest are **clinical psychology** and **counseling psychology**, which deal with the causes, prevention, diagnosis, and treatment of psychological disorders. Counseling psychologists tend to deal with problems of everyday living related to career planning, academic performance, and personal relationships. In contrast, clinical psychologists typically treat more serious disorders, including phobias, alcoholism, drug abuse, and severe depression. Chapter 15

developmental psychology The field that studies physical, perceptual, cognitive, and psychosocial changes across the life span.

personality psychology The field that focuses on factors accounting for the differences in behavior and enduring personal characteristics among individuals.

social psychology The field that studies how the actual, imagined, or implied presence of other people affects one another’s thoughts, feelings, and behaviors.

clinical psychology The field that applies psychological principles to the prevention, diagnosis, and treatment of psychological disorders.

counseling psychology The field that applies psychological principles to help individuals deal with problems of daily living, generally less serious ones than those treated by clinical psychologists.



Clinical and Counseling Psychology

Counseling psychologists tend to deal with problems of everyday living; clinical psychologists typically treat more serious disorders.

Source: wavebreakmedia/Shutterstock.com.

psychiatry The field of medicine that diagnoses and treats psychological disorders by using medical or psychological forms of therapy.

health psychology The field that applies psychological principles to the prevention and treatment of physical illness.

industrial/organizational psychology The field that applies psychological principles to improve productivity in businesses, industries, and government agencies.

school psychology The field that applies psychological principles to improve the academic performance and social behavior of students in elementary, middle, and high schools.

educational psychology The field that applies psychological principles to help improve curriculum, teaching methods, and administrative procedures.

sport psychology The field that applies psychological principles to help amateur and professional athletes improve their performance.

discusses the various techniques used by clinical and counseling psychologists as well as research concerning this important question: Is psychotherapy effective?

Clinical psychology and counseling psychology are distinctly different from the medical field of **psychiatry**. A psychiatrist is not a psychologist but a physician (with either an M.D. or a D.O.) who has served a residency in psychiatry, which takes a medical approach to the treatment of psychological disorders. Because psychiatrists are physicians, they may prescribe drugs or other biomedical treatments. Some clinical psychologists practicing in the state of New Mexico may undergo additional training and prescribe drugs. This controversial change has been made due to New Mexico's residents having comparatively less access to medical care than other Americans (Raw, 2003). Chapter 15 considers the various biopsychological treatments, including drugs to treat schizophrenia and electroconvulsive therapy to relieve depression. Some psychiatrists also offer psychotherapy to their clients.

Those who practice **health psychology** apply psychological principles to the maintenance of health and coping with illness. The major areas of health psychology include the relationship between stress and illness, the effects of behavior on health and illness, the individual's reaction to illness, and the role of psychology in serious and terminal illness. Health psychologists also develop interventions that reduce health-impairing habits, such as overeating and sedentary lifestyles (Baban & Cracian, 2007). Chapter 16 presents a comprehensive discussion of research findings and applications in health psychology.

Psychologists who practice **industrial/organizational psychology** work to increase productivity in businesses, industries, government agencies, and virtually any other kind of organization. They do so by improving working conditions, methods for hiring and training employees, and management techniques used by administrators. Some industrial/organizational psychologists stress the importance of improving the quality of workers' lives, not just productivity (Zickar, 2003).

One of the oldest professional fields of specialization is **school psychology**. School psychologists work in elementary schools, middle schools, and high schools. They help improve students' academic performance and school behavior. For example, school psychologists take part in programs to improve students' reading acquisition (Bramlett, Murphy, Johnson, Wallingsford, & Hall, 2002). Today, school psychologists have been forced to also deal with serious issues, such as the prevention of suicide and the aftermath of suicides by schoolchildren (Debski, Spadafore, Jacob, Poole, & Hixson, 2007) and the plague of bullying, including cyber bullying via the Internet (Diamanduros, Downs, & Jenkins, 2008).

The allied field of **educational psychology** tries to improve the educational process, including curriculum, teaching, and the administration of academic programs. For example, educational psychologists help school teachers understand the challenges faced by students with dyslexia (Regan & Woods, 2000). They also assess the effectiveness of inclusive programs versus traditional programs on the progress of students with intellectual or physical disabilities (Lindsay, 2007). There has been an influential movement in educational psychology to use only practices that have been supported by sound scientific research rather than simply relying on traditional practices or the opinions of educators (Stoiber & Waas, 2002). Educational psychologists usually are faculty members at colleges or universities.

Sport psychology applies psychology to the acquisition of athletic skills, the improvement of athletic performance, and the maintenance of exercise programs. Sport psychologists typically work with elite collegiate, Olympic, or professional athletes to help them achieve excellence in performance. Some sport psychologists work with injured athletes to help them cope with the rehabilitation process (Hamson-Utley, Martin, & Walters, 2009) or wheelchair athletes to help them adjust to their physical disability while performing to their optimal level (Page, Martin, & Wayda, 2001). Chapter 11 discusses the relationship between motivation and sport performance.



Environmental Psychology

Environmental psychologists work with a host of environmental settings and design exhibition centers, such as zoos and museums, to provide effective educational environments.

Source: Andrev Burmakin/Shutterstock.com.

Psychologists who practice **forensic psychology** apply psychology to the legal system. The topics they study include the jury deliberation process and the best ways to select jurors. Forensic psychologists also help train police to handle domestic disputes, negotiate with hostage takers, and cope with job-related stress. And they seek to determine the fairest ways to present lineups of criminal suspects for identification by eyewitnesses (Kebbell, 2000), assess the competency of children to testify in court (Bala, Kang, Lindsay, & Talwar, 2010), develop training programs for law enforcement leaders (Miller, Watkins, & Webb, 2009), and conduct risk assessments of sex offenders being considered for parole (Freeman, Palk, & Davey, 2010). Chapter 8 describes another issue of interest to forensic psychologists: What is the best way to obtain accurate eyewitness testimony from children?

Environmental psychology studies the effect of the physical environment on human behavior, including how to design environments that improve the quality of life. Environmental psychologists work with a host of environmental settings and engage in activities as diverse as designing capsule habitats for exploring outer space, the deep sea, and the polar regions (Suedfeld & Steel, 2000) and designing exhibition centers, such as zoos and museums, to provide effective educational environments (Bitgood, 2002). Environmental psychologists also contribute to our knowledge of the role of changes in ambient light levels and other environmental factors implicated in seasonal affective disorder (discussed in Chapter 14), which is marked by the development of severe depression during a particular season of the year—typically the winter (Tonello, 2008).

One of the newest fields of applied psychology is **peace psychology**, which aims at reducing conflicts and maintaining peace. Though the field is comparatively new, it became a formal subdiscipline during the Cold War, which began at the conclusion of World War II and ended in the early 1990s. During this time the world was threatened by nuclear annihilation as the then-Soviet Union and Western nations engaged in an escalating nuclear arms race (Christie, 2006). However, psychologists have long been interested in applying psychology to the promotion of peace. During the decade leading up to World War II, there was a symposium on the psychology of peace and war (Glover & Ginsberg, 1934). And near the end of that war, psychologists discussed ways of applying psychology to the coming peace and reconstruction (Lerner, 1943). Today, peace psychologists are particularly interested in finding ways to reduce tensions that promote ethnic conflicts and terrorism (Wagner, 2006).

forensic psychology The field that applies psychological principles to improve the legal system, including the work of police and juries.

environmental psychology The field that applies psychological principles to help improve the physical environment, including the design of buildings and the reduction of noise.

peace psychology The field that applies psychological principles to reducing conflict and maintaining peace.

Section Review: Professional Fields of Specialization

1. What is the difference between basic and applied research?
2. How does psychiatry differ from psychology?
3. What is the nature of peace psychology?

Chapter Summary

The Historical Context of Psychology

- Psychology is the scientific study of behavior and cognitive processes.
- The roots of psychology are in philosophy and physiology.
- The commonly accepted founding date for psychology is 1879, when Wilhelm Wundt established the first formal psychology laboratory.
- Structuralism sought to analyze the mind into its component parts.
- Functionalism favored the study of how the conscious mind helps the individual adapt to the environment.
- Gestalt psychology favored the study of the mind as active and the study of perception as holistic.
- Psychoanalysis studies the influence of unconscious motives on behavior.
- Behaviorism rejects the study of the mind in favor of the study of observable behavior.

Contemporary Perspectives in Psychology

- To date, psychology has no unifying scientific paradigm, only competing psychological perspectives.
- The humanistic perspective, which favors the study of conscious mental experience and accepts the reality of free will, arose in opposition to psychoanalysis and behaviorism.
- The cognitive perspective views the individual as an active processor of information.
- The biopsychological perspective favors the study of the biological bases of behavior, mental experiences, and cognitive processes.
- The sociocultural perspective insists that psychologists must study people in their social and cultural contexts.

The Scope of Psychology

- Academic fields of specialization are chiefly concerned with conducting basic research.
- Professional fields of specialization in psychology are chiefly concerned with applying psychological research findings.

Key Terms

psychology (p. 2)

The Historical Context of Psychology

analytic introspection (p. 6)
behaviorism (p. 11)
differential psychology (p. 5)
empiricism (p. 3)
functionalism (p. 6)
Gestalt psychology (p. 8)
nativism (p. 3)
phi phenomenon (p. 8)
psychic determinism (p. 10)
psychoanalysis (p. 9)
psychophysics (p. 4)
rationalism (p. 3)
structuralism (p. 6)

Contemporary Perspectives in Psychology

behavioral genetics (p. 15)
biopsychological perspective (p. 14)
cognitive perspective (p. 14)
cross-cultural psychology (p. 16)
cultural psychology (p. 16)
ethnic psychology (p. 17)
evolutionary psychology (p. 15)
existential psychology (p. 13)
humanistic perspective (p. 13)
multicultural psychology (p. 16)
phenomenological psychology (p. 13)
scientific paradigm (p. 13)
sociocultural perspective (p. 16)

The Scope of Psychology

applied research (p. 18)

basic research (p. 18)
behavioral neuroscience (p. 18)
clinical psychology (p. 19)
comparative psychology (p. 18)
counseling psychology (p. 19)
developmental psychology (p. 19)
educational psychology (p. 20)
environmental psychology (p. 21)
experimental psychology (p. 18)
forensic psychology (p. 21)
health psychology (p. 20)
industrial/organizational psychology (p. 20)
peace psychology (p. 21)
personality psychology (p. 19)
psychiatry (p. 20)
school psychology (p. 20)
social psychology (p. 19)
sport psychology (p. 20)

Note: Answers for the Chapter Quiz questions are provided at the end of the book.

1. If you insisted that “seeing is believing,” you would show your belief in
 - a. nativism.
 - b. empiricism.
 - c. rationalism.
 - d. psychic determinism.
2. The main difference between a psychiatrist and a clinical psychologist is that the psychiatrist
 - a. is a physician.
 - b. might analyze dreams.
 - c. relies strictly on Freudian theory.
 - d. deals with more serious kinds of disorders.
3. When you watch a cartoon in a movie theater, you are experiencing (the)
 - a. phi phenomenon.
 - b. Zeigarnik effect.
 - c. psychic determinism.
 - d. analytic introspection.
4. A psychologist would be most likely to
 - a. prescribe drugs to treat anxiety.
 - b. study the ability of apes to learn language.
 - c. provide evidence for or against the existence of God.
 - d. treat depression by administering electroshock therapy.
5. The philosopher who would most approve of Hugo Münsterberg’s founding of applied psychology would be
 - a. Plato.
 - b. Saint Augustine.
 - c. Immanuel Kant.
 - d. Francis Bacon.
6. Darwin’s theory of evolution had its greatest impact on
 - a. structuralism.
 - b. functionalism.
 - c. Gestalt psychology.
 - d. cognitive psychology.
7. Biology and psychology are both sciences because they
 - a. study the brain.
 - b. rely on statistics.
 - c. share a common method.
 - d. require specialized education.
8. Strict determinism would most likely be rejected by a
 - a. psychoanalyst.
 - b. biopsychologist.
 - c. behavioral psychologist.
 - d. humanistic psychologist.
9. The psychological perspective that is interested in studying the brain, the hormone system, and the effects of heredity on behavior is the
 - a. differential perspective.
 - b. neurochemical perspective.
 - c. cerebrocortical perspective.
 - d. biopsychological perspective.
10. The discussion of women in the early history of psychology noted that, since the early 20th century, psychology has been
 - a. more hospitable to women than to men.
 - b. more hospitable to women than other sciences have been.
 - c. less hospitable to women than other sciences have been.
 - d. about as hospitable to women as other sciences have been.
11. A research study on the effectiveness of psychological counseling techniques in helping Olympic athletes reach their potential would be an example of
 - a. pure research.
 - b. basic research.
 - c. applied research.
 - d. psychic determinism.
12. The discovery of possible universal psychological truths is central to
 - a. parapsychology.
 - b. cultural psychology.
 - c. humanistic psychology.
 - d. cross-cultural psychology.
13. If a psychologist insisted that a person’s recent fall down a flight of stairs was more attributable to unconscious self-loathing than to clumsiness, she would be supporting the Freudian notion of
 - a. stimulus control.
 - b. psychic determinism.
 - c. positive reinforcement.
 - d. psychophysical parallelism.
14. Near the end of his life, Carl Rogers lamented that humanistic psychology had little impact on mainstream psychology, in part because it
 - a. lacked scientific rigor.
 - b. was too concerned with sex.
 - c. likened the human mind to a computer.
 - d. stressed unconscious motivation instead of conscious experience.
15. Neither behaviorism nor psychoanalysis
 - a. studies the mind.
 - b. uses case studies.
 - c. considers the environment.
 - d. focuses on the conscious mind.
16. Research in differential psychology, a field founded by Francis Galton, would be most likely to
 - a. use placebo control groups.
 - b. determine the effect of exercise on academic performance.
 - c. study factors that make certain individuals more stress-resistant than others.
 - d. assess changes in the personality of a single subject across various life stages.

17. A behaviorist would be most likely to agree with the belief that leaders
- are made, not born.
 - are born, not made.
 - use will power to dominate other people.
 - are motivated by an unconscious desire for control.
18. An interest in the unconscious mind would be most characteristic of
- behaviorism.
 - psychoanalysis.
 - humanistic psychology.
 - cognitive psychology.
19. B. F. Skinner would be most likely to attribute your desire to pursue a college education to
- your drive for self-actualization.
 - an unconscious need to prove yourself.
 - your past success in academic courses.
 - intellectual interests inherited from your parents.
20. If a psychologist is interested in helping you to feel more self-actualized in your life, she is probably a(n)
- forensic psychologist.
 - cognitive psychologist.
 - humanistic psychologist.
 - experimental psychologist.
21. The main employment settings of psychologists are
- private practices.
 - businesses and industries.
 - colleges and universities.
 - governmental research laboratories.
22. Cognitive psychology can be viewed as the offspring of
- psychoanalysis and functionalism.
 - behaviorism and Gestalt psychology.
 - structuralism and humanistic psychology.
 - biopsychology and differential psychology.
23. The idea that the proper subject matter of psychology should be a person's conscious mental experience was put forth by
- Ivan Pavlov.
 - Roger Sperry.
 - B. F. Skinner.
 - Abraham Maslow.
24. According to philosopher Thomas Kuhn, as a science matures, it develops a paradigm shared by most scientists. Today, psychology
- lacks a unifying scientific paradigm.
 - is dominated by the humanistic paradigm.
 - is dominated by the behavioristic paradigm.
 - is dominated by the psychoanalytic paradigm.
25. The first psychological laboratory was established in 1879 by
- Sigmund Freud.
 - Wilhelm Wundt.
 - John B. Watson.
 - Edward Titchener.

Thought Questions

- How would nativists and empiricists differ in their opinion of early childhood intervention projects, such as Head Start?
- In the late 19th and early 20th centuries, many Americans believed that women's and men's lives should be lived in "separate spheres." How did this notion limit women's contributions to psychology?
- Suppose you find that your professor is an unusually "happy" person—smiling, cracking jokes, and complimenting students on their brilliant insights. How would the different psychological perspectives explain this behavior?