



INTRODUCTION

<<< *"I'm really happy for you, and I'm going to let you finish, but Beyoncé had one of the best videos of all time." Fans of the female pop singer were outraged when Taylor Swift's acceptance of MTV's 2009 Best Female Video award was cut short by Kanye West's intrusive declaration. Why are we so affected by the lives of celebrities?*

When

pop superstar Michael Jackson died at the age of 50, shockwaves resonated throughout the Western world. As news of the star's death spread, Internet traffic on Yahoo! News spiked to an all-time high and radio stations began playing Michael Jackson songs around the clock. Within days, the media was full of salacious details about the entertainer's troubled life, eagerly provided by former friends and employees. But why were we, the public, so eager to listen to them? What enthralled us about the life of a man we probably never met, let alone knew well enough to pass judgment on? Why do we have such a fascination with celebrities and their lives?

Celebrity worship is not a new phenomenon—successful Roman gladiators were revered like gods, and 19th-century composers Frédéric Chopin and Franz Liszt had legions of female fans. In fact, psychologists believe there may be something in our DNA that encourages us to find an idol and follow him or her. Stuart Fischhoff, professor emeritus of media psychology at California State University, Los Angeles, believes that, as a social animal, man is preprogrammed to follow the alpha males and alpha females of the pack. In today's society, those alpha males and alpha females are the Brad Pitts and Angelina Jolies of the world—the rich and famous celebrities whose lives we envy.

Some scientific research suggests that a mild dose of celebrity worship may actually be good for

- WHAT** IS PSYCHOLOGY AND WHY DOES IT FASCINATE US?
- HOW** IS THE SCIENTIFIC METHOD USED TO STUDY PSYCHOLOGY?
- WHAT** IS THE HISTORY OF PSYCHOLOGY?
- WHAT** MAJOR QUESTIONS DO PSYCHOLOGISTS SEEK TO ANSWER?
- WHAT** ARE SOME DIFFERENT SUBTYPES OF PSYCHOLOGY?

us, providing us with a goal to strive for and increasing our self-esteem. Psychologist Shira Gabriel and her colleagues gave 348 college students (one-fifth of whom admitted to having a celebrity crush) a self-esteem questionnaire and ranked the participants according to their baseline level of self-esteem. She then asked the students to take five minutes to write an essay about their favorite celebrity. Finally, the students retaken the self-esteem test. Gabriel noted that the students who initially scored the lowest on the self-esteem test scored much higher on the second test after they had written about their favorite celebrities. She speculated that the students had formed a bond with their chosen celebrity, assimilating some of the celebrity's characteristics in themselves and feeling better about themselves as a result (Gabriel, et al. 2008).

Although a little celebrity worship might be good for us, a lot is likely to be harmful. Researchers have coined the term "celebrity worship syndrome" to describe the condition in which idolatry takes over a person's life and becomes all-consuming. Fans with unhealthy obsessions may suffer from anxiety, depression, and social dysfunction. It seems that celebrity worship, much like everything else in life, is best enjoyed in moderation.

What Is Psychology?

Psychology is the scientific study of behavior—overt actions and reactions—and mental processes—covert internal activity in the mind. While philosophers might speculate on why people act as they do, psychologists use scientific methods to accurately describe, explain, predict, or control human and animal behavior. The scientific method has only fairly recently been applied to psychology; until approximately 130 years ago, psychology was considered to be a branch of philosophy. Throughout this chapter, we will examine the development of psychology as a formal discipline in its own right.

WHY STUDY PSYCHOLOGY?

What motivated you to study psychology? Maybe you are hoping to solve the “nature versus nurture” debate and learn whether environmental factors can truly ever trump genetics. Perhaps you are looking for tips on how to improve your relationships with your friends and family members, or maybe you’re more interested in learning about how you can reduce stress and anxiety in your daily life. If you polled your fellow students about their reasons for studying psychology, you would likely discover that everyone has something in common—a fundamental curiosity about themselves and the world they live in. Among other things, studying psychology reduces our uncertainty about our own experiences by providing knowledge about ourselves (Why do I have short-term memory lapses? How can I increase my IQ level?), other people (Why do people suffer from mental disorders? Why do people have different personalities?), and the world (Do people from other countries perceive the world differently? How does culture affect personality?).

Psychology is the scientific study of behavior and mental processes.

Empiricism is the view that knowledge originates through experience.

Scientific method is a process for conducting an objective inquiry through data collection and analysis.

Psychology and the Scientific Method

FOLK PSYCHOLOGY

You may have encountered some skepticism from people who do not believe that psychology is a science. This is a fairly common misconception, born out of the fact that much of what psychologists study may be personally experienced. For example, you may believe that men are more aggressive than women because you have two older brothers who are constantly engaged in fistfights and a younger sister who always takes on the role of family pacifist. Your individual experience has given you a false sense of actual scientific data that may or may not be true of the population as a whole.

This type of misconception is less common in the physical sciences. Few people would claim to have personal insight about the behavior of accelerated electrons or the results of a chemical reaction between hydrogen and nitrogen. Before they state their theories as facts, physicists and chemists undergo careful scientific processes to prove or disprove their ideas. Although many people don’t realize it, scientific processes are equally important in psychology. For example, the fact that you have personally encountered more aggressive males and less aggressive females does not necessarily indicate that everyone has had the same experiences. Maybe your family is atypical. Perhaps non-biological factors such as parental influence, social environment, or peer pressure have affected your siblings’ behavior. There are limits

to what we can intuit about our own behavior and



the behavior of others. Not only are we limited by the boundaries of our own experiences, we are also limited by the reliability of our memories and the dangers of our personal biases. In order to make generalized, objective, and well-supported statements about human nature, psychologists need to act as scientists rather than as casual observers.

Of course, casual observers are often on the right track: Many times, theories that seem like “common knowledge” are in fact supported by rigorous psychological research. (For example, several studies indicate that in general, men *are* naturally more aggressive than women are.) However, scientific psychological research also frequently disproves many of our culture’s commonly held assumptions, highlighting the importance of critical, objective inquiry to the study of the human mind.

THE IMPORTANCE OF EMPIRICISM

Have you ever met someone for the first time and immediately made assumptions about him or her? Maybe you thought that because a stranger was wearing glasses, she must be intelligent, or maybe you connected a neighbor’s playing music with violent lyrics to a violent worldview. When we make judgments like these, we rely on contextual assumptions and stereotypes to give us information about people, but more often than not, this information turns out to be at least slightly inaccurate. Like other scientists, psychologists aim to eliminate the effects of personal and cultural bias from their research. When psychologists draw conclusions about people, they do so through experimentation rather than through personalized judgments or stereotyping.

Most psychologists today believe in the importance of **empiricism**, or the view that knowledge originates through experience. In other words, information that you observe or collect yourself is more reliable

<<< Are men naturally more aggressive than women? **Scientific investigations** both prove and disprove common **assumptions.**

than information that you can't observe or that you hear third-hand. As a result, psychologists who perform experiments use the **scientific method**, a process for conducting an objective inquiry through data collection and analysis.

The Scientific Method

<<< Psychologists use the **scientific method** to reduce **bias** and **error** in their research.

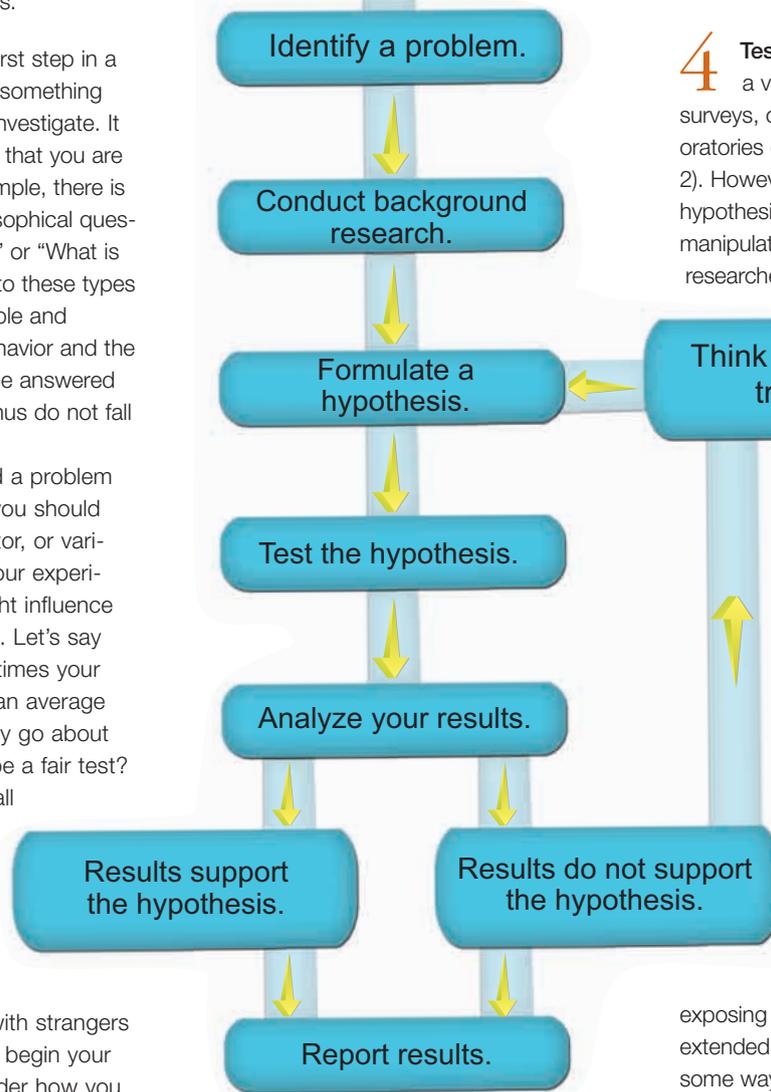
1 Identify the problem. The first step in a scientific inquiry is to notice something that you would like to explain or investigate. It is important to choose a problem that you are able to study empirically. For example, there is no point in asking tempting philosophical questions such as “Why are we here?” or “What is morality?” Although the answers to these types of questions would provide valuable and fascinating insight into human behavior and the human experience, they cannot be answered using the scientific method and thus do not fall into the psychological realm.

Once you have established a problem that can be studied empirically, you should ensure that there is only one factor, or variable, that changes throughout your experiment. Any other factors that might influence your results should be controlled. Let's say you are investigating how many times your siblings behave aggressively on an average day, so you observe them as they go about their daily business. Would this be a fair test? How would you make sure that all three siblings encounter the same potential stressors that might make them behave aggressively? How might factors such as traffic jams, disagreements with peers, and unpleasant chance encounters with strangers affect their behavior? Before you begin your research, it is important to consider how you will collect and measure your data so that your results are as accurate and reliable as possible.

2 Conduct background research. Has your question been studied before? If you are investigating a popular topic such as male and female aggression, there is probably already a great deal of research available that will give you further information about your topic of study. You can consult library and Internet resources to discover what research has already been done on your topic, how that research might be improved, and what areas might warrant further study.

3 Formulate a hypothesis. Based on your initial observations and your background

research, you can make a hypothesis, or an educated guess about an explanation for your observations. Your hypothesis should be written as a statement that can either be proved or disproved. For example, you may have read several articles indicating that men are more likely to use aggressive actions than women, or that men are less patient than women when placed in stressful situations. Incorporating this research with your observations about your brothers and sister, you might hypothesize, “If a male is placed in a stressful situation, he will react more aggressively than a female who is placed in the same stressful situation would.”



4 Test the hypothesis. Psychologists use a variety of research methods, including surveys, case studies, and observations in laboratories or natural environments (see Chapter 2). However, the most conclusive way to test a hypothesis is to conduct an experiment. By manipulating a single characteristic, a researcher can study how this particular

characteristic affects a specific outcome. Depending on the experi-

ment, this outcome may involve the behavior of a person, the behavior of a group, or even the behavior of the human brain. While undertaking this particular study, you would manipulate a particular situation and then examine the behavior of several individuals within that situation. For example, you might select a group of men and a group of women of similar age, education level, and cultural background and individually place them in the same stressful situation—asking them to solve an impossible puzzle, for example, or

exposing them to a loud, annoying noise for an extended period of time. You would then find some way of measuring the aggressive behavior in each gender. You might, for instance, invite participants to take out their frustrations on a punching bag, and then record how many times each person chooses to hit it. By controlling the environment in which the stressful situation takes place and creating the same stressful situation each time, you can ensure that you are only changing one variable in your experiment.

5 Analyze your results. Once you have completed your experiment, you can analyze your results to determine whether they support your hypothesis. Psychologists use statistical analysis to help them summarize their data and determine how likely it is that the results were due to chance (see Chapter 2). It is often helpful to repeat an experiment several

Critical thinking is a way of processing information in which a person examines assumptions, evaluates evidence, looks for hidden agendas, and assesses conclusions.

Dualism is the belief that the mind does not cease to exist when the body dies, and that thoughts and ideas can exist separately from the body.

Structuralism is a school of psychology concerned with the individual elements of consciousness and showing how they can be combined and integrated.

Functionalism is a school of psychology focused on how organisms use their learning and perceptual abilities to function in their environment.

times to demonstrate that the first set of results was not due to chance.

If your results do not support your hypothesis, you should consider whether there is another possible explanation for your observations and construct a new hypothesis. Maybe your brother's aggression results from playing a lot of contact sports. Maybe your sister is studying Buddhism and has adopted some of the

religion's nonviolent beliefs. Scientists continually refine their hypotheses until they are satisfied that their theories can be tested and proven.

6 Report your results. Whether or not the results of your experiment support your hypothesis, it is important to share your results by making them available to others. Other researchers may be able to use your findings to learn from your mistakes, refine your hypothesis, or attempt to replicate your experiment to add support to your research. Once a research paper has been established as credible, researchers may use it to predict behavior based on the findings or use the results of the findings to modify or control behavior. Published research also becomes the background information that is read by others who are formulating and refining their own hypotheses, as described in step 2. Let's say that your research suggests that men do behave more aggressively than women in stressful situations. Other researchers may wonder whether this particular situation provokes a unique response in men and women, or whether other types of stress might have different effects.

The scientific method is not a hard and fast rulebook for every type of psychological study. For example, some studies collect data via observation rather than experimentation, and they follow different empirical procedures. These are discussed in detail in Chapter 2.

THE IMPORTANCE OF CRITICAL THINKING

It's important to approach scientific claims with an open but skeptical mind. "Where's the evidence?" is often the first question on the lips of someone adept at **critical thinking**—a way of processing information in which we examine assumptions, evaluate evidence, look for hidden agendas, and assess conclusions. Ask yourself whether the author had a motive for making a particular claim. Did he or she use reliable evidence to prove his or her theory? Might there be alternative explanations for the author's results? You may have personally experienced the same findings as the author of a particular paper (for example, a study claiming that the middle child in a family is more sociable than the eldest child may accurately reflect your own family), but it is important not to allow your personal experiences to increase the legitimacy of the results. A thorough examination of the author's use of the scientific process is required to determine whether the research is reliable.

Critical inquiry also requires a degree of humility: Scientists need to be able to reject their own theories and open their minds to unlikely findings. Imagine if fellow scientists had persistently rejected Copernicus's heliocentric theory because it was common knowledge that the Earth was the center of the universe and the mere suggestion that things could be any other way was preposterous. The use of critical inquiry has convincingly discredited more recent assumptions, including the idea that opposites attract (Rosenbaum, 1986) and the notion that people who talk in their sleep are verbalizing their dreams (Mahowald & Ettinger, 1990).

Do you believe everything you read? **Critical thinkers evaluate and assess information with a degree of skepticism.**



>>> Among other contributions to psychology, **William James** served as a mentor to **Mary Calkins**, one of the first prominent women in the field.

The History of Psychology

PRESCIENTIFIC PSYCHOLOGY

In the fifth century BC, Greek philosophers began to speculate about how the mind works and how it might affect behavior. Socrates (470–399 BC) and Plato (428–347 BC) believed that the mind did not cease to exist when the body died, and that thoughts and ideas could exist separately from the body, a concept known as **dualism**. They theorized that knowledge is built within us and that we gain access to it through logical reasoning.

Although Socrates and Plato's beliefs were developed nearly 2,500 years ago, it was not until the Scientific Revolution of the late Renaissance period that French philosopher René Descartes (1596–1650), a believer of Socrates' idea that mind is distinct from body, began to investigate how the two might be connected. By dissecting the brains of animals, Descartes concluded that the pineal gland at the base of the brain was the principal seat of the soul, where all thoughts were formed. He believed that the soul flowed through the body through hollow tubes and controlled muscle movement. Although anyone who still subscribes to Descartes' beliefs about the soul would probably fail a biology exam, the hollow tubes that Descartes noted were, among other things, important for controlling reflexes: We now know them as nerves.

Not all 17th century philosophers agreed with the theories of Socrates and Plato. British philosopher John Locke (1632–1704) believed that at birth, the human mind is a *tabula rasa*, a "blank slate," containing no innate knowledge. Locke proposed that people gain knowledge through their experiences by means of observation, laying the foundations for later studies in sensation and perception. His theory that knowledge is gained through careful external and

internal observation planted the early seeds of empiricism and contributed to the development of the scientific method.

FOUNDATIONS OF SCIENTIFIC PSYCHOLOGY

Most psychologists agree that the birth of modern psychology occurred in a laboratory in Germany in 1879. The founder of the laboratory, Wilhelm Wundt (1832–1920), argued that the mind could be examined both scientifically and objectively, and he invited students from around the world to learn how to study the structure of the human mind. This was the first time anyone had attempted to incorporate objectivity and measurement into the field of psychology, earning Wundt the moniker "father of psychology." His lectures gained popularity throughout the 1880s, and before long, the new science of psychology had evolved into two early schools of thought: structuralism and functionalism.

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Structuralism and Functionalism

One of Wundt's students, Edward Titchener (1867–1927), believed that experiences could be broken down into individual emotions and sensations, much as a chemist or a physician might analyze matter in terms of molecules and atoms. His school of thought, which focused on identifying individual elements of consciousness and showing how they could be combined and integrated, became known as **structuralism**. Titchener's approach was to engage people in introspection, or "looking inward," training them



to report various elements of their experiences as they patted a dog, thought about the color blue, or smelled a flower. Introspection and structuralism were short-lived concepts, dying out in the early 1900s. Although they had little long-term effect on psychological science, the study of sensation and perception is still an important part of contemporary psychology (see Chapter 5).

Unlike Wundt and Titchener, American academic William James (1842–1910) believed that to break consciousness into individual elements was an act of impossibility. He saw consciousness as a continuing stream of ever-changing thoughts that could not be separated. Instead, James focused on how organisms use their learning and perceptual abilities to function in their environment, an approach that came to be known as **functionalism**. Influenced by Darwin's theories of evolution, James speculated that thinking developed because it is adaptive. He believed that useful behavioral traits (in addition to physical traits) could be passed from generation to generation.

Although functionalism is no longer a major perspective in psychology, elements of functionalist thought can still be seen in educational psychology and organizational psychology. For example, by emphasizing individual differences, functionalism influenced the theory that children

Gestalt psychology is a school of psychology centered on the belief that people naturally seek out patterns, or wholes, in the sensory information available to them.

Psychodynamic approach is an approach to psychology based on the belief that behaviors are motivated by internal factors unavailable to the conscious mind.

Behavioral approach is an approach to psychology that concentrates on observable behavior that can be directly measured and recorded.

Humanistic approach is an approach to psychology based on the belief that people have free will and are able to control their own destinies.

Cognitive psychology is a field of psychology focused on the workings of the human brain and seeking to understand how people process the information that they collect from their environments.

Evolutionary approach is an approach to psychology that explores ways in which patterns of human behavior may be beneficial to people's survival.

should be taught at the level for which they, as individuals, are developmentally prepared.

Gestalt Psychology

In Germany, psychologists were also objecting to structuralism, albeit for different reasons. Max Wertheimer (1880–1943) believed that the acts of sensing and perceiving could not be broken into smaller elements and still be understood. When people look at a house, Wertheimer reasoned, they see a house, not a collection of doors, walls, and windows. Wertheimer and his colleagues believed that the act of perception entails more than just the sum of its parts. Their ideas developed into a school of thought known as **Gestalt psychology**. Roughly translated, *gestalt* means “whole” or “form.” Gestalt psychologists believed that people naturally seek out patterns, or wholes, in the sensory information available to them. (See Chapter 5 for more information about Gestalt psychology.)

Psychodynamic Theory

If one of the hallmarks of fame is to have one's favorite terms and catchphrases become part of our everyday lexicon, then Sigmund Freud (1856–1939) has achieved the height of posthumous celebrity in the world of psychology. Have you ever described someone as *anal*, discussed the *Oedipus*

complex, or accused someone of using humor as a *defense mechanism*? If so, you can thank Freud for these terms and the psychological theories behind them.

An Austrian medical doctor who specialized in disorders of the nervous system, Freud believed that human beings are motivated by primitive sexual drives, forbidden desires, and traumatic childhood memories unavailable to the conscious mind. According to Freud, these repressed urges constantly impinge upon the conscious mind, expressing themselves through dreams, through slips of the tongue (now known as Freudian slips), or as symptoms of psychological disorders.

Freud's theories, which formulated the **psychodynamic approach** to psychology, were highly controversial. Many of his Victorian contemporaries were shocked, both by his focus on sexuality and by the implication that people are not always in control of their actions. However, Freud's theories were held in

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high regard and inspired many well-known researchers, including Swiss psychologist Carl Jung and Freud's daughter Anna Freud, to continue his work. Freud's ideas formed the basis of modern psychotherapy, the development of which is discussed in Chapter 16.

Behaviorism

One disadvantage of psychoanalytic theory is that it is difficult to test scientifically. For example, it is all but impossible to prove that a grown woman has relationship problems because she unconsciously resents her father for not being around when she was a child. The theories of structuralism and functional-

ism faced similar challenges because they both involved the study of consciousness—internal processes that could not be measured or validated. John B. Watson (1878–1958), however, wanted to make scientific inquiry a primary focus in psychology. In the 1900s, he developed the **behavioral approach** to psychology, which concentrates on observable behavior that can be directly measured and recorded.

Watson's ideas were based on the work of Russian physiologist Ivan Pavlov, who showed that a reflex (an involuntary action) such as salivation could be trained (conditioned) to occur in response to a formerly unrelated stimulus, such as a ringing bell. Whereas Freud believed that behavior stemmed from unconscious motivation, Watson used Pavlov's research to argue that behavior can be learned. Watson and his colleague, Rosalie Rayner, famously proved that fear could be conditioned by teaching an 11-month-old child to fear a white rat. By

repeatedly pairing the appearance of the rat with a loud, scary noise, the child eventually associated the rat with the noise and cried whenever he saw the creature (Watson & Rayner, 1920). Given the questionable ethics of this study, it is unlikely that Watson's experiment will ever be repeated, though similar results have been obtained using less damaging forms of conditioning. The ethical factors to consider when designing and carrying out an experiment are discussed in detail in Chapter 2.

Throughout the mid-20th century, behaviorism gained momentum through the work of B. F. Skinner, who supported

Watson's idea of learning through conditioning. Skinner believed that behavior could be altered through reinforcement—rewarding or punishing a learner when he or she engages in a particular behavior. The ways in which Watson and Skinner influenced contemporary psychological approaches are discussed in Chapter 7.

Humanistic Psychology

In the first half of the 20th century, psychoanalysis and behaviorism were the two primary approaches to psychology. However, neither of them put forth the suggestion that individuals have significant control over their own

destinies. Behaviorists maintained that people's actions were learned responses to various stimuli, while psychoanalysts claimed that people were influenced by their unconscious desires.

In the 1950s, a new psychological perspective emerged. This perspective emphasized the importance of self-esteem, self-expression, and reaching one's potential. Supporters of the **humanistic approach**, as it came to be known, believed that people have free will and are able to control their own destinies. Two founding theorists of the humanistic approach were Abraham Maslow (1908–1970), who studied motivation and emotion, and Carl Rogers (1902–1987), who made significant contributions to the study of personality and the practice of psychotherapy. Maslow believed that people should strive for self-actualization—the achievement of one's full potential.

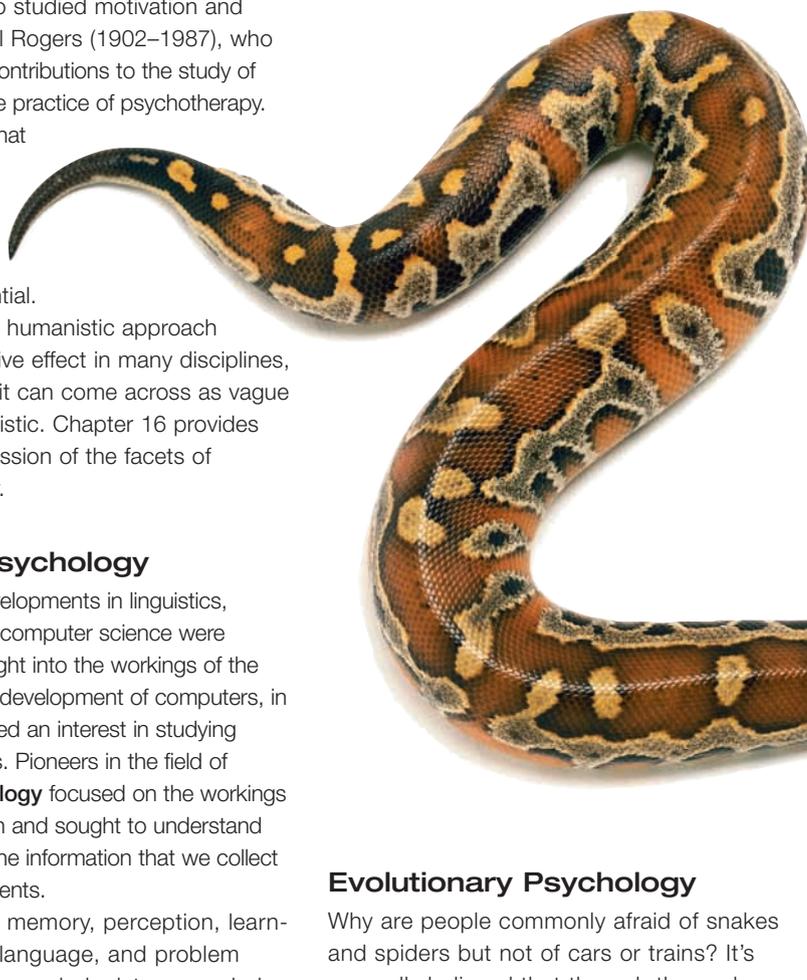
Although the humanistic approach has had a pervasive effect in many disciplines, critics argue that it can come across as vague and naively optimistic. Chapter 16 provides an in-depth discussion of the facets of humanistic theory.

Cognitive Psychology

By the 1960s, developments in linguistics, neurobiology, and computer science were providing new insight into the workings of the human mind. The development of computers, in particular, stimulated an interest in studying thought processes. Pioneers in the field of **cognitive psychology** focused on the workings of the human brain and sought to understand how we process the information that we collect from our environments.

Focusing on memory, perception, learning, intelligence, language, and problem solving, cognitive psychologists expanded the definition of psychology to incorporate the study of specific mental processes into the more general concept of behavior. Developments in brain-imaging techniques have enabled cognitive psychologists to examine neurological processes that previously mystified scientists, such as how we store memories or how damage to particular areas of the brain increases the likelihood of specific mental disorders. In a relatively short period of time, the cognitive perspective has become one of the most rapidly advancing perspectives in modern psychology.

Statistically, you are more likely to be killed in a jumbo jet crash than as a result of a snake bite, but our evolutionary instincts have yet to catch up with our natural phobias.



Evolutionary Psychology

Why are people commonly afraid of snakes and spiders but not of cars or trains? It's generally believed that through the evolutionary process, our ancestors developed a healthy fear of things that might harm them (Seligman, 1971). Whereas fearless warriors who took on rattlesnakes with their bare hands probably didn't make it very far along the evolutionary ladder, those with more cautious approaches toward reptiles tended to survive, passing on their genes and eventually producing an entire population of people who naturally fear snakes. Since cars and trains have not been around for long enough to pass on a fear of crashes, we are not yet genetically predisposed to fear them.

Based on Darwin's theory of natural selection, the **evolutionary approach** to psychology explores ways in which patterns of human behavior may be beneficial to our survival. Evolutionary psychologists study issues such as parenting, sexual attraction, and violence among different species and cultures to explain how people might be genetically pre-programmed to behave in a certain way. For example, a recent study indicates that men with a gene variant called "allele 334" may find it more difficult to remain monogamous than men without the allele (Walum et al., 2008). Researchers have long speculated that the stereotype of the male philanderer developed as a result of gender differences between the sexes, and evolutionary psychologists might argue that while women require consistent, stable relationships because they spend more time nurturing children, it is evolutionary beneficial for men to father as many children as possible.

Over the years, the field of psychology has grown as scientists discover new and valuable ways of examining thoughts, actions, and behaviors. Today, psychologists use all of the approaches mentioned here—and more—to study the workings of the human mind. Some psychological perspectives may seem to contradict each other, and there's no consensus in the psychological community about which approach is the "right" approach. Rather, each of the many diverse approaches to psychology sheds new light on the fundamental questions of the field: Why do we act the way we do? What really goes on in our minds? Each perspective offers its own answers to questions like these, and each perspective, in turn, raises new questions of its own.

Levels of Analysis

Choose any question or issue in psychology, and you will be able to look at it from a number of different angles. Philosophers observed a long time ago that a single issue can be examined at

Levels of analysis are various ways that psychologists can look at a psychological issue, such as from the level of the brain, the level of the person, and the level of the world.

Nature describes inherited characteristics that influence personality, physical growth, intellectual growth, and social interactions.

Nurture describes environmental factors such as parental styles, physical surroundings, and economic issues.

Natural selection is a theory that states that organisms best adapted to their environment tend to survive and transmit their genetic characteristics to succeeding generations.

multiple **levels of analysis**. For example, let's say you are studying the effects of celebrity worship, as discussed in the beginning of the chapter. You might examine the phenomenon at the level of the brain (Do certain neurological structures contribute to intensity of fandom?), at the level of the person (How do people's beliefs and values change as a result of their media fascination?), or

at the level of the world (Does celebrity worship affect how some people interact with others around them?). Psychologist Stephen Kosslyn identified these three categories as the major levels of analysis, although there are many more angles from which to approach a particular psychological issue.

Sometimes, psychological issues are ideally suited to a particular level of analysis. For example, if you are studying personality, it makes sense to focus your study at the level of the person. How do individuals react in stressful situations? What gives people a sense of achievement? How stable are individual personalities? However, a comprehensive study should incorporate other levels of analysis. You might consider whether MRI scans have uncovered patterns that point to specific behavioral traits (the level of the brain), or you might study whether culture affects personality type (the level of the world). Many psychologists believe that it is only possible to understand events at one level of analysis if we take into account what is occurring at the other levels.

Nature vs. Nurture

Jeffrey was a happy, bubbly youngster who enjoyed riding his bike and playing with his pet dog, Frisky. Growing up in the 1960s, he had a stable family, with two loving parents and a younger brother. There was little in Jeffrey's upbringing to suggest that he should develop into anything other than a healthy, well-adjusted adult.

On July 22, 1991, Jeffrey Dahmer was arrested at his Milwaukee apartment. What police found inside was almost unspeakable. Gruesome photos of dismembered body parts, a severed head in the refrigerator, three more heads in the freezer—the list of atrocities went on and on. Further investigation revealed that Dahmer had killed 17 men and boys during a killing spree that went undetected for 13 years. Following a 160-page confession, Dahmer was sentenced to 15 consecutive life terms in prison. He was murdered in prison by a fellow inmate in 1994.

Levels Of Analysis

Level of Analysis	Causal Process Studied	Category
Neural	Brain	Biological
Genetic	Genes	
Evolutionary	Natural Selection	
Learning	Individual's prior experiences with the environment	Experiential
Cognitive	Individual's knowledge or beliefs	
Social	Influence of other people	
Cultural	Influence of the culture in which the individual develops	
Developmental	Age-related changes	

^ There are many different **levels of analysis** from which to examine a **psychological issue**.

The story of Jeffrey Dahmer underscores one of the biggest and most enduring issues faced by psychologists. Do our human traits develop through experience, or does a genetic blueprint determine who we will become? Are we primarily defined by **nature**—inherited characteristics that influence personality, physical growth, intellectual growth, and social interactions, or by **nurture**—environmental factors such as parental styles, physical surroundings, and economic issues? Although Dahmer was not subjected to the abuse or neglect that many serial killers experience during childhood, there were several incidents in his past that could have factored into his decline into sadism. A hernia operation at the age of six left him subdued and vulnerable, and he became increasingly isolated when his family moved to a new area. However, many people deal with far more traumatic childhood occurrences without resorting to murder. Was there something inherent in Dahmer's biological makeup that made his sadistic killing spree inevitable?

HISTORY OF THE NATURE-NURTURE DEBATE

The nature-nurture debate has been raging at least since the time of the ancient Greeks. Plato's beliefs—that knowledge is built within us and that character and intelligence are largely inherited—placed Plato firmly in the “nature” camp. Flying the “nurture” flag was Plato's student, Aristotle, who disagreed with his teacher and claimed that people acquire knowledge by observing the physical world and passing information into the mind via the senses. In the 1600s, Locke and Descartes reignited the debate, with Locke arguing that the mind is a blank slate waiting to be filled by experience, and Descartes countering that some ideas are innate.

When Darwin sailed around the world in 1831, he collected evidence that would lend support to Descartes' views. Darwin's theory of **natural selection**, outlined in his 1859 book, *The Origin of Species*, explained variation within species as the result of evolution. Nature selects features that best enable an organism to adapt to its environment, and these features are passed on to future generations. Darwin's ideas (discussed in Chapter 4) remain the fundamental principles of biology, and the concept that traits may be heritable has strongly influenced contemporary psychology.

After many years of scientific debate and research, most psychologists agree that



Are National Spelling Bee contestants excellent spellers because of their genes, their environments, or both?

we become the people we are through a unique combination of hereditary and environmental factors. It is almost impossible to think of a psychological issue that is exclusively dependent on nature or on nurture. However, the debate continues with regard to just how influential each factor may be. For example, the subject of intelligence is still a hot-button issue: To what extent is intelligence inherited, and to what extent is it learned? Some researchers assume that intelligence is primarily determined by genetic factors (Bouchard & Segal, 1985; Herrnstein & Murray, 1994; Jensen, 1969), while others believe that environmental factors such as culture, economics, childhood nutrition, and education have a stronger sway (Gardner et al., 1996; Rose et al., 1984; Wahlsten, 1997). Aspects of the nature-nurture debate may be addressed by considering multiple levels of analysis. For example, a psychologist studying intelligence levels might examine biological factors at the level of the brain by comparing MRI scans of the brains of people with different levels of intelligence. The psychologist may also examine environmental factors at

the level of the person by investigating people's educational histories and childhood environments.

The nature-nurture debate raises interesting questions for contemporary psychologists. Are people with mental illnesses predisposed to suffer particular conditions, or do stressful life events or other environmental factors trigger mental disorders? How do children learn language—through repetition and education, or via a preprogrammed mechanism that stimulates the development of grammar? The answers to one question in particular may have fascinating social implications: Can people change? Is there hope of rehabilitation for men like Jeffrey Dahmer, or is a serial killer always a serial killer? Are men with the allele 334 gene variant destined to cheat on their wives, or can they overcome their natural urges? Could all Holocaust survivors have gone on to develop the mental fortitude and productivity displayed by author Elie Wiesel, or did something in Wiesel's biological makeup awaken in him a sense of determination rather than one of hopelessness? The nature-nurture debate rages on.

Types of Psychology

Based on the wide range of issues already mentioned in this chapter, you have probably figured out that the field of psychology is extremely diverse. The term *psychologist* describes everyone from the therapist listening to a client talking about his depression, to the researcher measuring how violent video games affect children's behavior, to the scientist examining the structure of a rat's brain. While these professions may seem unrelated, there is a glue that binds all psychologists together—an interest in human behaviors and the processes that influence them.

PSYCHOLOGICAL ORGANIZATIONS

Like most vocations, psychology has a number of professional bodies that promote specific interests and maintain standards within the industry. With 148,000 members, the American Psychological Association (APA) is the world's largest organization of professional psychologists. Founded in 1892, it aims to promote the interests of psychology both nationally and worldwide. The APA produces a number of books, research papers, and journals, including its official journal, *American Psychologist*. You may have written (or in the near future will write) papers using APA style, which is a formatting style commonly adopted in the social sciences.

Since the APA is primarily geared toward clinical psychology, several research-focused groups have formed their own organizations. The Association for Psychological Science (APS) specializes in scientific psychology. Founded in 1988, it has 20,000 members and produces science and research-based books and journals, including its flagship magazine, *Psychological Science*.

“With an increasing demand for psychological services in schools, hospitals, social service agencies, mental health centers, and private companies, the employment prospects for a psychology graduate are high.”

The APA currently has 56 professional divisions, each specializing in a particular area of psychology. Examples of specific divisions include developmental psychology (the scientific study of education and child care) and health psychology (the understanding of health and illness through basic and clinical research). Members of each division receive regular newsletters providing them with information about upcoming conferences and interesting developments within their field of expertise.

CAREERS IN PSYCHOLOGY

With an increasing demand for psychological services in schools, hospitals, social service agencies, mental health centers, and private companies, the employment prospects for a psychology graduate are high. According to the Bureau of Labor Statistics, 166,000 psychologists were employed in 2006, and this employment rate is expected to rise 15 percent by 2016—faster than the average for all occupations. Job prospects are highest for people with a doctoral degree in an applied specialty, such as counseling or health, and for people with a specialist or doctoral degree in school psychology. The median salary of a clinical, counseling, or school psychologist in May 2006 was a very respectable \$59,440, and if you relish the thought of making your own hours, there is even better news—about 34 percent of all psychologists are self-employed, compared to 8 percent of the rest of the working population.

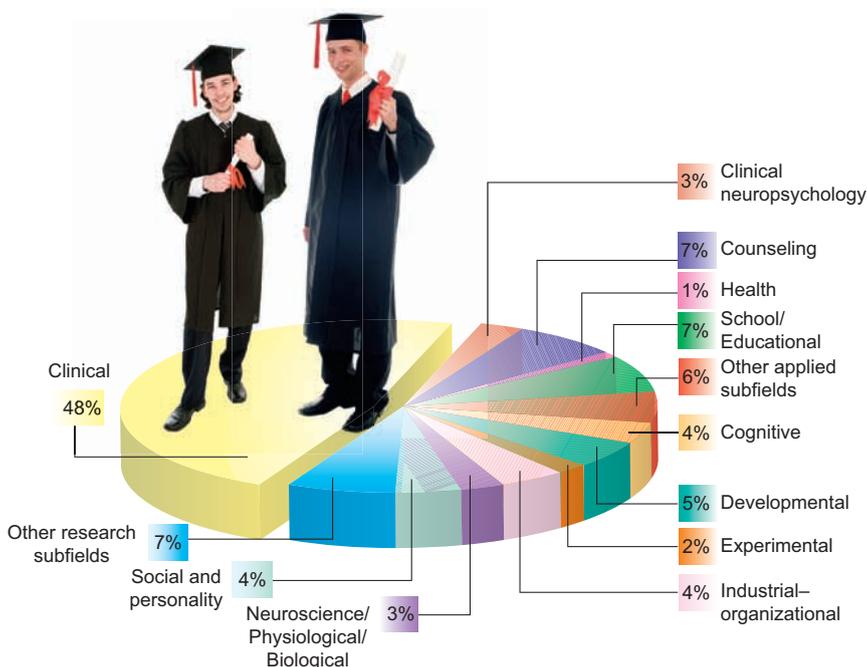
Although the APA has 56 professional divisions, careers in psychology can be broadly divided into three main categories: clinical psychology, academic psychology, and applied psychology.

Clinical Psychology

Clinical psychologists diagnose and treat people with specific mental or behavioral problems, and the field of **clinical psychology** covers a wide variety of professions, ranging from mental health experts to family therapists. Clinical psychologists interview patients, give diagnostic tests, provide psychotherapy, and design and implement behavioral modification programs. Unlike psychiatrists, clinical psychologists are not medical doctors, and most do not have the ability to prescribe drugs. This is changing in some states; in 2002, specially trained and licensed psychologists in the state of New Mexico were granted the right to prescribe drugs, and psychologists in Louisiana are now permitted to write prescriptions after consulting with a psychiatrist.

Areas of specialization within clinical psychology include neuropsychology (studying the relationship between the brain and behavior), counseling (advising people on how to deal with problems of everyday living, such as career-related stress), social work (helping people resolve problems in their lives specifically related to poverty or oppression), psychiatric nursing (assessing mental

Employment Outcomes for Graduates with Psychology Degrees



Source: 2005 Graduate Study in Psychology. Compiled by APA Center for Psychology Workforce Analysis and Research (CPWAR).

<<< This pie chart shows the specialty areas of psychologists who recently received their doctoral degrees.

health needs or diagnosing and treating people with mental disorders), and school psychology (addressing students' learning and behavioral problems). More psychology graduates gain employment in the field of clinical psychology than in any other subdiscipline.

Academic Psychology

Not all psychologists work directly with people who have mental or behavioral issues. If you talk to your psychology professors, you will probably learn that outside of the classroom, they each have specialty areas of interest in which they conduct research. **Academic psychologists** usually divide their time between supervising and teaching students, completing administrative tasks, and carrying out psychological research. The proportion of time that each psychologist devotes to each of these tasks depends on the nature of his or her academic institution; some academic psychologists spend the majority of their time teaching, while others, particularly at larger schools, devote more time to research. Teaching positions at universities are generally very competitive. According to a 1995 National Research Council survey of 3,200 graduates with PhDs, only 17.5 percent had firm teaching contracts, although 62 percent planned on an academic career.

Some areas of academic expertise include developmental psychology (the study of the social and mental development of human beings), cognitive psychology (the study of internal mental processes), abnormal psychology (the study of mental disorders and other abnormal thoughts and behaviors), personality psychology (the study of patterns of thought, feeling, and behavior that make a person unique), and social psychology (the study of group behavior and the influence of social factors on the individual). Academic psychologists who specialize in these and other areas often aim to publish their research in approved journals related to their field of study.

Applied Psychology

The term **applied psychology** refers to the use of psychological theory and practice to tackle real-world problems. For example, rather than simply examining whether there is a link between high stress levels and coronary heart disease, a health psychologist may work with patients at risk of coronary heart disease to reduce their stress levels. The field of applied psychology is not limited to any particular psychological discipline; it encompasses many different areas that share a common goal of using psychology in a practical form.

Imagine that you are an employer looking to select the best possible candidate for a position in your company. How can you guarantee that your interviewing strategies determine a person's true character? Once you have hired your new employee, how can you ensure that he or she thrives in a productive, enjoyable working environment? Industrial and organizational psychology is a form of applied psychology in which psychologists study behavior in the workplace and advise business owners based on their findings. An industrial/organizational (I/O) psychologist may conduct job analyses to determine candidates' suitability for a position, analyze fairness in employee compensation, use psychometric testing to assess employees' attitudes and morale, and train people to work more effectively in teams. Trends in the economic climate often play a vital part in determining the role of an I/O psychologist; in the current economic downturn, many are

“Not all psychologists work directly with people who have mental or behavioral issues. If you talk to your psychology professors, you will probably learn that outside of the classroom, they each have specialty areas of interest in which they conduct research.”

primarily involved with helping firms develop alternatives to employee downsizing or with managing layoffs in the most humane way possible.

Many businesses send their employees on annual team-building exercises to encourage bonding and teamwork in the office. Similar techniques are used in the rapidly growing field of sports psychology. If you were asked to name a film in which a new coach guides a poorly performing team to a seemingly impossible victory via a series of team-bonding exercises, you could probably rattle off several titles without trying very hard. Sports psychologists believe that it is not enough for athletes to train their bodies; athletes also need to have a healthy mindset in order to succeed. Techniques to help athletes achieve this mindset include setting clear short-term goals, holding positive thoughts,

Clinical psychology is a field of psychology that deals with the diagnosis and treatment of people with specific mental or behavioral problems.

Academic psychologists usually divide their time between supervising and teaching students, completing administrative tasks, and carrying out psychological research.

Applied psychology refers to the use of psychological theory and practice to tackle real-world problems.

using relaxation techniques, and visualizing a desired outcome, whether it be sinking a free throw or winning a race. If you're an athlete aiming for excellence, you might consider consulting a sports psychologist: Tiger Woods, perhaps the greatest golfer of all time, has been consulting one since age 13.

Although I/O psychology and sports psychology provide excellent examples of “real-world” psychology, applied psychology is useful in areas other than athletics and business, too. In fact, any subfield of psychology that has been mentioned in this chapter can be applied to real-world situations in some way. A personality psychologist may be consulted on the selection of a jury, for example, or an environmental psychologist might advise a town planning board. Contrary to the popular stereotype of a psychologist analyzing a patient on a couch, there are numerous industries to which psychologists can contribute their knowledge and insight.



Why might an I/O psychologist recommend that business employees participate in team-building activities together?

01

Chapter Summary


WHAT IS PSYCHOLOGY AND WHY DOES IT FASCINATE US? p. 4

- Psychology is the scientific study of behavior and mental processes.
- We study psychology in response to a fundamental curiosity about ourselves and our world.


HOW IS THE SCIENTIFIC METHOD USED TO STUDY PSYCHOLOGY? p. 4

- Scientists aim to reduce error and bias in their psychological studies by employing the principles of empiricism and the scientific method.
- The six steps of the scientific method that psychologists generally follow are identifying the problem, conducting background research, formulating a hypothesis, testing the hypothesis, analyzing the results, and reporting the results.


WHAT IS THE HISTORY OF PSYCHOLOGY? p. 7

- The Greek philosophers Socrates and Plato believed that knowledge is built within us, whereas John Locke (1632–1704) believed that the human mind is a blank slate at birth.
- William Wundt, the “father of psychology,” set up his laboratory in 1879. His student, Edward Titchener, founded structuralism.

William James proposed functionalism, and Max Wertheimer put forth the concept of Gestalt psychology.

- Modern approaches to psychology include Freud’s psychodynamic theory, behaviorism, the humanistic approach, cognitive psychology, and evolutionary psychology.


WHAT MAJOR QUESTIONS DO PSYCHOLOGISTS SEEK TO ANSWER? p. 11

- The question of whether our traits, behaviors, and mental processes are primarily the result of inherited characteristics (nature) or environmental factors (nurture) has been, and continues to be, a controversial topic in psychology.
- Most psychologists agree that humans are influenced by a unique combination of hereditary and environmental factors


WHAT ARE SOME DIFFERENT SUBTYPES OF PSYCHOLOGY? p. 12

- Clinical psychologists diagnose and treat people with mental or behavioral problems, while academic psychologists teach and carry out psychological research.
- Applied psychology refers to the use of psychological theory and practice to tackle real-world problems. Industrial organizational psychologists and sports psychologists are examples of people who use applied psychology day-to-day.

Test Your Understanding

- Ashley is using the scientific method to test whether male children are more violent than female children. What will she most likely do first?
 - research previous scientific studies about children, gender roles, and violence
 - formulate a hypothesis stating that young males are more violent than young females
 - select five male children and five female children and monitor their reaction to a violent video game
 - perform statistical analysis to determine whether male children are more violent than female children
- Which philosopher believed that the mind contains no innate knowledge?
 - Socrates
 - Plato
 - Locke
 - Descartes
- Which of the following is a disadvantage of psychodynamic theory?
 - It treats humans as mechanistic.
 - It is considered naively optimistic.
 - It is difficult to test scientifically.
 - It does not emphasize individual differences.
- Kyle wants to improve his class’s attention span. Every week, he monitors which student works consistently for the longest period of time and rewards that student with a treat. Kyle is using:
 - a humanistic approach.
 - a cognitive approach.
 - an evolutionary approach.
 - a behavioral approach.
- Which of the following statements would William Wundt most likely have agreed with?
 - The mind can be studied scientifically.
 - Advantageous behavioral traits can be inherited.
 - At birth, the human mind is a blank slate.
 - Repressed urges affect the conscious mind.
- Leah is researching whether women smile more often than men. Having researched her topic and formed a hypothesis, she observes her female colleagues at work. She then meets her male friends for a drink after work and records their facial movements. What is the biggest problem with Leah’s experiment?
 - Her study has already been done before.
 - She is changing more than one variable.

- c. The hypothesis is too broad for one experiment.
d. She needs a second researcher to record the results.
7. Sigmund Freud believed that:
a. people control their own destinies.
b. consciousness cannot be measured.
c. people seek patterns in sensory information.
d. repressed urges affect the conscious mind.
8. Which approach to psychology has advanced rapidly in recent years due to improvements in brain-imaging techniques?
a. humanistic psychology
b. cognitive psychology
c. evolutionary psychology
d. Gestalt psychology
9. Raul is investigating the thought patterns of people afflicted with bipolar disorder. Which of the following represents a question Raul might ask at the level of the world?
a. How do a bipolar patient's thought patterns vary over the course of the day?
b. How are bipolar thought patterns reflected in brain activity?
c. How do a patient's thought patterns vary in response to different stimuli?
d. How do bipolar thought patterns vary across cultures?
10. Which of the following supports the "nurture" side of the nature vs. nurture debate?
a. Plato's ideas about intelligence
b. Darwin's theory of natural selection
c. Descartes' theory of knowledge
d. Aristotle's ideas about knowledge
11. Which of the following arguments is most likely based on ideas from the "nature" side of the nature vs. nurture debate?
a. Traumatic events during childhood can cause mental problems later in life.
b. Regularly practicing mental agility exercises can help to improve one's memory.
c. A person who is predisposed to have a mental illness is virtually guaranteed to develop that illness.
d. Children who perform poorly at failing schools will improve their performance if they are able to transfer to a more successful school.
12. Which of the following is true of the American Psychological Association (APA)?
a. It is geared toward psychological research.
b. It produces the journal *Psychological Science*.
c. It focuses primarily on developmental psychology.
d. It is the world's largest organization of professional psychologists.
13. Jenny is a firm believer in the ideas of Sigmund Freud, while Tom believes in the theories put forward by John B. Watson. Which of the following statements best summarizes their differences?
a. Jenny thinks that behavior stems from unconscious motivation, whereas Tom thinks that behavior can be learned.
b. Jenny thinks that behavior can be learned, whereas Tom thinks that behavior stems from unconscious motivation.
c. Jenny thinks that people should strive for self-actualization, whereas Tom thinks that people are not in control of their destinies.
d. Jenny thinks that people are not in control of their destinies, whereas Tom thinks that people should strive for self-actualization.
14. Psychiatric nurses and school psychologists are specialists within the field of:
a. academic psychology.
b. research psychology.
c. developmental psychology.
d. clinical psychology.
15. Mark, a professor of psychology, focuses much of his research on the study of group behavior and influence of social factors on the individual. Mark's academic specialty is:
a. cognitive psychology.
b. personality psychology.
c. social psychology.
16. Which of the following is NOT an example of applied psychology?
a. A health psychologist researches a potential link between depression and brain tumors.
b. A personality psychologist assists a prosecutor with the jury selection process for a trial.
c. An I/O psychologist performs individual assessments to determine whether candidates are suitable for a position.
d. A clinical psychologist teaches a patient to use breathing exercises to calm his anxiety.
17. Which of the following is an example of critical thinking?
a. researching facts about a topic
b. copying a previous experiment
c. accurately measuring and recording results
d. questioning a researcher's motive for making a claim
18. Which of these is NOT a role of a clinical psychologist?
a. interviewing patients
b. giving diagnostic tests
c. providing psychotherapy
d. carrying out psychological research
19. Which of the following statements is true about the nature-nurture debate?
a. Most psychologists agree that nature is more influential than nurture.
b. Most psychologists agree that nurture is more influential than nature.
c. Most psychologists agree that both nature and nurture are influential, but disagree on the extent of their influence.
d. Most psychologists agree that the nature-nurture debate was resolved when Darwin developed his theory of evolution.
20. Gemma is interested in studying the relationship between the brain and behavior. In which area of psychology should she aim to specialize?
a. neuropsychology
b. abnormal psychology
c. personality psychology
d. psychiatric nursing
- Remember to check www.thethinkspot.com for additional information, downloadable flashcards, and other helpful resources.**

Answers: 1) a; 2) c; 3) c; 4) d; 5) a; 6) b; 7) d; 8) b; 9) d; 10) d; 11) c; 12) d; 13) a; 14) d; 15) c; 16) a; 17) d; 18) d; 19) c; 20) a