AP Psychology Summer Assignment

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"Life is lived forwards, but understood backwards." -Kierkegaard

Welcome to AP Psychology! I am excited to get to know you this school year and for you to get to know yourselves and the person sitting next to you better. This is a challenging, fast-paced, and fun course that demands daily attention. I will do my utmost to prepare you for the AP exam in May, and the expectation is that you will do your best to do the work and learn the material.

The due date of the summer packet is the first day of class. I will not accept incomplete submissions. You must do ALL of the packet! AP Psychology is a college level course and the expectation is that all work will be turned in on time, with very rare exceptions. For late enrollees (those who enroll in the first week of school), the due date of the packet is by the end of the 2nd week of school.

The summer assignment if focused on Unit 1 of the digital resource LaunchPad for Myers' Psychology for AP. The author is David G. Myers and it is published by bfw/Worth Publishers and the ISBN is 9781319076. It is available for purchase on the school's website. You will be required to buy the digital version of this book for the class, but you may utilize the textbook version to help you complete the summer assignment. You may also use Internet searches to supplement what the textbook offers.

The following outlines what you are to complete before school begins. I recommend completing the packet in the order in which it is stapled. First, read Unit 1 and complete the photocopied worksheets while you read to ensure that you are actively processing the content. Second, complete the 2 projects and the 4-paragraph written assignment.

You will be tested on Unit 1 with quizzes in the first week of school-perhaps even on the first day of class! Please make sure you email me if you have any questions. I will also be available in my office in A3 during the summer.

Have a restful and fruitful summer; I look forward to the coming school year and pray that it will be a time of growth, learning, and joy.

Wishing you the best,

Mrs. Choi

While You Read

1-1 Complete the following chart with details to support each early theorist's beliefs about the nature of mind, body, and innate and acquired knowledge. One has been filled in to get you started.

⚠ More information is given on Locke, Decartes and Darwin in Module 2. Make sure to leave some space in the table and return to the two charts below later to add the additional information that will complete your chart.

Theorist/ Philosopher	Viewpoint
Socrates	
Plato	• *Knowledge is innate—born within us* • *Mind is separable from body and continues after the body dies*
Aristotle	
René Descartes	
Francis Bacon	
John Locke	

1-2 Complete the following chart detailing the contributions and important milestones each of the early psychologists made to the field.

Psychologist	Contribution or Milestone
Wilhelm Wundt	
G. Stanley Hall	
Edward Titchener	
Charles Darwin	
William James	
Mary Whiton Calkins	
Margaret Floy Washburn	

1-3 Complete the following chart with information about the developments in psychology from 1920 to the present.

Psychologist	Psychological Approach to Explaining Behavior and Mental Processes	Key Terms
John B. Watson		
B. F. Skinner	*You should observe and record people's behavior to understand them*	
Sigmund Freud		
Carl Rogers		*Growth potential*
Abraham Maslow		

2. According to your text, what is the definition of psychology?

While You Read

2-1 Answer the following questions:

1. List a few of your more prominent traits: physical (for instance, eye color which is filled in for you), intellectual, personality, and so on that you feel either were inherited (nature) or arose from your environment (nurture).

Nature	Nurture
eye color	

Nurture works on what nature endows. (p. 10)

2. What do you think is meant by the statement above?

3. List and elaborate on at least two examples of your own traits—taken from your list above or new ones—that could make the above statement true in your life. For instance, if you wrote *"intelligence"* in the Nature column, discuss how your environment (nurture) contributed to or detracted from that trait.

More information is given on Locke, Decartes and Darwin in this module. Remember to return to your charts in Module 1 and add the additional information to make them more complete.

2-2 Consider the levels of analysis and varying perspectives your author gives to explain the emotion of anger. Using the trait of shyness, apply the seven perspectives to explain why a person might be shy. One is done for you as an example.

Perspective	This person is shy because . . .
Behavioral	she learned that when she is quiet and avoids eye contact, other people leave her alone. She feels pleasure at being left alone to think her own thoughts and daydream so is rewarded for being shy.
Biological	
Cognitive	
Evolutionary	
Humanistic	
Psychodynamic	
Social-cultural	

2-3 Complete the chart below by providing the focus of each of the subfields of psychology.

Subfields of Psychologists	Focus
psychometrics	
developmental	
educational	
personality	
social	
industrial-organizational	
human factors	
counseling	
clinical	
psychiatrists	
positive	
community	

Module 3

Careers in Psychology

Before You Read

Module Summary

Module 3 builds on the introduction of psychology's subfields from Module 2 and provides additional information regarding the vast opportunities and specialized focus of the varied career paths.

While You Read

3-1 Complete the two tables below:

Basic Research Subfields of Psychology	Examples of Work These Psychologists Do
Cognitive	
Developmental	
Educational	
Experimental	
Psychometric/ Quantitative	
Social	

Applied Research Subfields of Psychology	Examples of Work These Psychologists Do
Forensic	
Health	
Industrial-Organizational (I/O)	

Applied Research Subfields of Psychology	Examples of Work These Psychologists Do
Neuropsychology	
Rehabilitation	
School	
Sport	
Clinical	
Community	
Counseling	

After You Read

Module 3 Review

Complete the review questions below to see if you have mastered the basics.

Which psychologist would you consult with if you:

1. are a Major League Baseball player who is in a slump? _____
2. are a corporate executive that wants to increase employee morale? _____
3. work for the Centers for Disease Control and want to start a program to prevent the spread of sexually transmitted diseases? _____
4. want to develop a valid, reliable test to measure student performance in a school district? _____
5. want to reform the child-care institutions in this country? _____
6. suffer from schizophrenia? _____
7. have a child you suspect may have a learning disability? _____
8. just moved to a new town and are feeling out-of-place and sleeping more than usual? _____
9. want to make changes to the way you think about and perceive the world? _____
10. sustained a concussion in a soccer game and believe you may have a serious head injury? _____

✓ Check Yourself

Now that you have mastered the basics, work through the problems below to see if you can *synthesize* what you have learned.

1. Describe one way in which Titchener's ideas of structuralism and James' emphasis on functionalism differ.

2. Discuss the arguments behaviorists Watson and Skinner may have had with James regarding the study of human behavior.

3. How might Sigmund Freud have differed from the behaviorists in his ideas of human behavior?

4. In what way did the theories of humanists Rogers and Maslow run counter to those of their predecessors, Freud and Watson?

5. In what way do the cognitivists agree with the early theorists' ideas of structuralism?

✓ Check Yourself

Now that you have mastered the basics and can apply your knowledge, work through the case study below to see if you can *evaluate* and *analyze* using the basic material you have learned. You are not diagnosing the patient in the case, simply explaining her behavior through the lens of each listed approach.

Norah is a 6-year-old girl who is often disobedient. She frequently throws temper tantrums and refuses to finish her meals. Her parents come to you, a well-respected psychologist in your town, asking for your thoughts on why they are having such difficulties with her. How would you explain Norah's behavior to her parents if you were a:

Humanist? It is obvious to me, as a humanist, that your daughter Norah's difficulties stem from…

Behaviorist? It is obvious to me, as a behaviorist, that your daughter Norah's difficulties stem from…

Psychoanalyst (Freudian)? It is obvious to me, as a psychoanalyst, that your daughter Norah's difficulties stem from…

In what ways might you find the four approaches above to be limiting in their ability to help you explain Norah's behavior?

Cognitivist? It is obvious to me, as a cognitivist, that your daughter Norah's difficulties stem from…

✓ Check Yourself

Now that you have mastered the basics, work through the problem below to see if you can *synthesize* what you have learned.

A famous television and movie actor is repeatedly in and out of rehabilitation centers for drug and alcohol abuse. She began her career as the lead in a popular children's show and spent a decade starring in both Hollywood movies and television dramas. Now, in her late-twenties, she is a regular feature in the celebrity magazines and tabloids for her bizarre public outbursts, illegal behavior and edgy lifestyle. Finally, as a result of a court-order, she has sought psychological counseling and assessment. She is finding it hard to decide on a permanent psychologist because she is receiving conflicting explanations for her lack of functioning. Using your knowledge from Module 2, discuss how each of the perspectives/levels of analysis below might be utilized to explain the actor's behavior. Create specific examples that would apply.

1. A behaviorist:

2. A biopsychologist:

3. A cognitive psychologist:

4. An evolutionary psychologist:

5. A humanist:

6. A psychodynamic/psychoanalytic psychologist:

7. A socio-cultural psychologist:

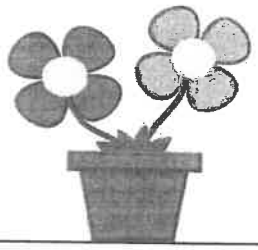
AP Psychology

Name_____

Mnemonics for Theories of Psychology

Directions: Read pages 11-12 in your textbook, paying close attention to Table 2.1 (you are also welcome to look up each approach On-line). For each theory of psychology, design a picture or visual representation that summarizes the main aspects of the approach. Also, include an explanation of why this picture represents the approach.

Example:

Theory	Mnemonic/Visual Representation	Explanation of why this represents the Theory
Humanism		A flower tries to blossom and grow no matter if it has a good or bad environment. A bad environment however can prevent the flower from becoming all that it wants to become.

Your Examples:

Theory	Mnemonic/Visual Representation	Explanation of why this represents the Theory
Psychoanalytic		
Behavioral		
Cognitive		

AP Psychology Name_____

Theory	**Mnemonic/Visual Representation**	**Explanation of why this represents the Theory**
Humanistic		
Sociocultural		
Neurobiological		
Evolutionary		

AP Psychology

History of Psychology Trading cards
(10 points per card)
(20 points for overall neatness and artistic quality of cards)
120 total points

If you have ever dreamed about psychology and baseball getting married, then you will love this assignment! Below is a list of famous historical figures in the field of psychology. Your job is to create a trading card for each individual.

Each trading card must include but is not limited to the following items:
- Picture of the individual (hand-drawn, computer generated, or photocopied) (2 points)
- Birth/death date (1 point)
- Occupation (1 point)
- Contribution to the history of psychology/historical Impact (3 points)
- Any books or articles they have completed (2 points)
- An interesting fact that most people would not know about this individual (1 point)

Your cards should be informative and **they should look like actual trading cards.**

In addition to our textbook, the following websites may be useful in finding information on your respective psychologists. You may also try a Google search.

http://psychclassics.yorku.ca/
http://www.emory.edu/EDUCATION/mfp/psy.html
www.psychology.org
http://plato.stanford.edu/contents.html

Your should make a card for ten of the following individuals:

Carl Jung	Sigmund Freud
Charles Darwin	John Watson
B.F. Skinner	Carl Rogers
Edward Thorndike	William James
Edward Titchener	Wilhelm Wundt
Karen Horney	Kenneth Clark
Jean Piaget	Anna Freud
G. Stanley Hall	Alfred Adler

AP Psychology Name_____

Careers in Psychology Poster

There are many exciting career options in the field of psychology. There are seven major research areas (developmental psychology, social psychology, experimental psychology, physiological psychology, cognitive psychology, personality, and psychometrics). Some careers in these fields require a bachelor's degree in psychology while others require a Master's or Doctorate Level degree.

Please select 2 different careers in psychology that you find interesting. For each of them, create a job description/want advertisement poster. Be sure to include the following:

Skills required for the position
Training/education required for the position
Beginning and growth potential for salary
Necessary daily duties
Creative/unique advertisement to draw people to the field

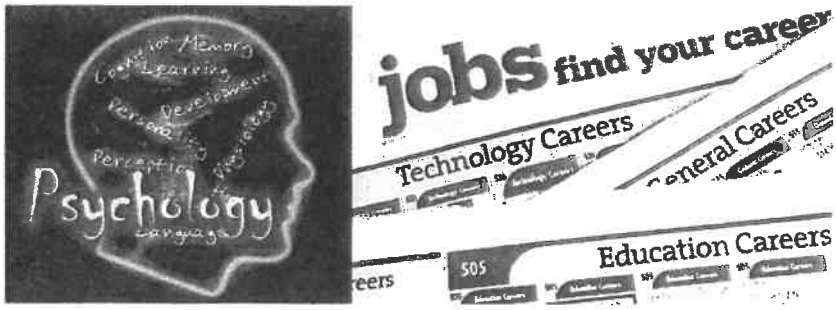
Use the information provided in Unit I of your textbook and the following 2 websites to help you:

http://www.apa.org/students/brochure/brochurenew.pdf

http://www.psywww.com/careers/

You need not limit yourself to the careers listed in the webpages. In fact, as long as a background in psychology would help in the profession nearly any profession could be used.

Here is a link to all of the divisions within the American Psychological Association, which can help you in selecting a career to research.
http://www.apa.org/about/division/index.aspx



AP Psychology Name:_____

The nature/nurture debate is an ongoing controversy in the field of psychology. We will be following this theme throughout our study of psychology. I'd like for you to apply this issue to your own life. Think about who you are today-your personality, interests, hobbies, and passions in life. Why do you think you are the person you are today?

Write a total of 4 paragraphs addressing the nature/nurture debate as it applies to you. First, write a paragraph describing yourself. Tell me about your personality and what you spend your time doing. Second, write a paragraph addressing why you think you were born this way and then a paragraph explaining how your environment has shaped you. Write one final paragraph in which you argue for either nature or nurture as having the bigger impact on shaping who you are.

Psychology's Roots

Once upon a time, on a planet in this neighborhood of the universe, there came to be people. Soon thereafter, these creatures became intensely interested in themselves and in one another: *"Who are we? What produces our thoughts? Our feelings? Our actions? And how are we to understand and manage those around us?"*

AP® Exam Tip

To assist your active learning of psychology, Learning Objectives are grouped together at the start of each module, and then framed as questions that appear at the beginning of major sections.

Prescientific Psychology

1-1 How did psychology develop from its prescientific roots in early understandings of mind and body to the beginnings of modern science?

We can trace many of psychology's current questions back through human history. These early thinkers wondered: How does our mind work? How does our body relate to our mind? How much of what we know comes built in? How much is acquired through experience? In India, Buddha pondered how sensations and perceptions combine to form ideas. In China, Confucius stressed the power of ideas and of an educated mind. In ancient Israel, Hebrew scholars anticipated today's psychology by linking mind and emotion to the body; people were said to think with their heart and feel with their bowels.

In ancient Greece, the philosopher-teacher Socrates (469–399 B.C.E.) and his student Plato (428–348 B.C.E.) concluded that mind is separable from body and continues after the body dies, and that knowledge is innate—born within us. Unlike Socrates and Plato, who derived principles by logic, Plato's student Aristotle (384–322 B.C.E.) had a love of data. An intellectual ancestor of today's scientists, Aristotle derived principles from careful observations. Moreover, he said knowledge is *not* preexisting (sorry, Socrates and Plato); instead it grows from the experiences stored in our memories.

The next 2000 years brought few enduring new insights into human nature, but that changed in the 1600s, when modern science began to flourish. With it came new theories of human behavior, and new versions of the ancient debates. A frail but brilliant Frenchman named René Descartes (1595–1650) agreed with Socrates and Plato about the existence of innate ideas and mind's being "entirely distinct from body" and able to survive its death. Descartes' concept of mind forced him to conjecture, as people have ever since, how the immaterial mind and physical body communicate. A scientist as well as a philosopher, Descartes dissected animals and concluded that the fluid in the brain's cavities contained "animal spirits." These spirits, he surmised, flowed from the brain through what we call the nerves (which he thought were hollow) to the muscles, provoking movement. Memories formed as experiences opened pores in the brain into which the animal spirits also flowed.

Descartes was right that nerve paths are important and that they enable reflexes. Yet, genius though he was, and standing upon the knowledge accumulated from 99+ percent of our human history, he hardly had a clue of what today's average 12-year-old knows. Indeed, most of the scientific story of our self-exploration—the story told in this book—has been written in but the last historical eye-blink of human time.

Meanwhile, across the English Channel in Britain, science was taking a more down-to-earth form, centered on experiment, experience, and common-sense judgment. Francis Bacon (1561–1626) became one of the founders of modern science, and his influence lingers in the experiments of today's psychological science. Bacon also was fascinated by the human mind and its failings. Anticipating what we have come to appreciate about our mind's hunger to perceive patterns even in random events, he wrote that "the human

understanding, from its peculiar nature, easily supposes a greater degree of order and equality in things than it really finds" *(Novum Organuum,* 1620). He also foresaw research findings on our noticing and remembering events that confirm our beliefs: "All superstition is much the same whether it be that of astrology, dreams, omens . . . in all of which the deluded believers observe events which are fulfilled, but neglect and pass over their failure, though it be much more common."

Some 50 years after Bacon's death, John Locke (1632–1704), a British political philosopher, sat down to write a one-page essay on "our own abilities" for an upcoming discussion with friends. After 20 years and hundreds of pages, Locke had completed one of history's greatest late papers *(An Essay Concerning Human Understanding),* in which he famously argued that the mind at birth is a *tabula rasa*—a "blank slate"—on which experience writes. This idea, adding to Bacon's ideas, helped form modern **empiricism,** the idea that what we know comes from experience, and that observation and experimentation enable scientific knowledge.

empiricism the view that knowledge originates in experience and that science should, therefore, rely on observation and experimentation.

Psychological Science Is Born

1-2 What are some important milestones in psychology's early development?

Philosophers' thinking about thinking continued until the birth of psychology as we know it, on a December day in 1879, in a small, third-floor room at Germany's University of Leipzig. There, two young men were helping an austere, middle-aged professor, Wilhelm Wundt, create an experimental apparatus. Their machine measured the time lag between people's hearing a ball hit a platform and their pressing a telegraph key (Hunt, 1993). Curiously, people responded in about one-tenth of a second when asked to press the key as soon as the sound occurred—and in about two-tenths of a second when asked to press the key as soon as they were consciously aware of perceiving the sound. (To be aware of one's awareness takes a little longer.) Wundt was seeking to measure "atoms of the mind"—the fastest and simplest mental processes. So began the first psychological laboratory, staffed by Wundt and by psychology's first graduate students. (In 1883, Wundt's American student G. Stanley Hall went on to establish the first formal U.S. psychology laboratory, at Johns Hopkins University.)

Before long, this new science of psychology became organized into different branches, or schools of thought, each promoted by pioneering thinkers. These early schools included *structuralism, functionalism,* and *behaviorism,* described here (with more on behaviorism in Modules 26–30), and two schools described in later modules: Gestalt psychology (Module 19) and psychoanalysis (Module 55).

Wilhelm Wundt Wundt established the first psychology laboratory at the University of Leipzig, Germany.

FYI

Information sources are cited in parentheses, with name and date. Every citation can be found in the end-of-book References, with complete documentation that follows American Psychological Association (APA) style.

AP® Exam Tip

Every question on the AP® Psychology exam will reflect the fact that psychology is a science built on the tradition of Wundt and his laboratory. Correct answers on the test are based on what research has revealed; not on "common sense"!

Edward Bradford Titchener
Titchener used introspection to search for the mind's structural elements.

Thinking About the Mind's Structure

Soon after receiving his Ph.D. in 1892, Wundt's student Edward Bradford Titchener joined the Cornell University faculty and introduced **structuralism.** As physicists and chemists discerned the structure of matter, so Titchener aimed to discover the structural elements of mind. His method was to engage people in self-reflective *introspection* (looking inward), training them to report elements of their experience as they looked at a rose, listened to a metronome, smelled a scent, or tasted a substance. What were their immediate sensations, their images, their feelings? And how did these relate to one another? Titchener shared with the English essayist C. S. Lewis the view that "there is one thing, and only one in the whole universe which we know more about than we could learn from external observation." That one thing, Lewis said, is ourselves. "We have, so to speak, inside information" (1960, pp. 18–19).

Alas, introspection required smart, verbal people. It also proved somewhat unreliable, its results varying from person to person and experience to experience. Moreover, we often just don't know why we feel what we feel and do what we do. Recent studies indicate that people's recollections frequently err. So do their self-reports about what, for example, has caused them to help or hurt another (Myers, 2002). As introspection waned, so did structuralism.

"You don't know your own mind." -JONATHAN SWIFT, *POLITE CONVERSATION*, 1738

Thinking About the Mind's Functions

Hoping to assemble the mind's structure from simple elements was rather like trying to understand a car by examining its disconnected parts. Philosopher-psychologist William James thought it would be more fruitful to consider the evolved functions of our thoughts and feelings. Smelling is what the nose does; thinking is what the brain does. But *why* do the nose and brain do these things? Under the influence of evolutionary theorist Charles Darwin, James assumed that thinking, like smelling, developed because it was *adaptive*—it contributed to our ancestors' survival. Consciousness serves a function. It enables us to consider our past, adjust to our present, and plan our future. As a **functionalist** James encouraged explorations of down-to-earth emotions, memories, willpower, habits and moment-to-moment streams of consciousness.

structuralism early school of thought promoted by Wundt and Titchener; used introspection to reveal the structure of the human mind.

functionalism early school of thought promoted by James and influenced by Darwin; explored how mental and behavioral processes function—how they enable the organism to adapt, survive, and flourish.

James' greatest legacy, however, came less from his laboratory than from his Harvard teaching and his writing. When not plagued by ill health and depression, James was an impish, outgoing, and joyous man, who once recalled that "the first lecture on psychology I ever heard was the first I ever gave." During one of his wise-cracking lectures, a student interrupted and asked him to get serious (Hunt, 1993). He loved his students, his family and the world of ideas, but he tired of painstaking chores such as proofreading. "Send me no proofs!" he once told an editor. "I will return them unopened and never speak to you again" (Hunt, 1993, p. 145).

James displayed the same spunk in 1890, when—over the objections of Harvard's president—he admitted Mary Whiton Calkins into his graduate seminar (Scarborough & Furumoto, 1987). (In those years women lacked even the right to vote.) When Calkins joined, the other students (all men) dropped out. So James tutored her alone. Later, she finished all the requirements for a Harvard Ph.D., outscoring all the male students on the qualifying exams. Alas, Harvard denied her the degree she had earned, offering her instead a degree from Radcliffe College, its undergraduate sister school for women. Calkins resisted the unequal treatment and refused the degree. (More than a century

William James and Mary Whiton Calkins James was a legendary teacher-writer who authored an important 1890 psychology text. He mentored Calkins, who became a pioneering memory researcher and the first woman to be president of the American Psychological Association (APA).

Margaret Floy Washburn The first woman to receive a psychology Ph.D., Washburn synthesized animal behavior research in *The Animal Mind*.

later, psychologists and psychology students were lobbying Harvard to posthumously award Calkins the Ph.D. she earned [*Feminist Psychologist*, 2002].) Calkins nevertheless went on to become a distinguished memory researcher and the APA's first female president in 1905.

When Harvard denied Calkins the claim to being psychology's first female psychology Ph.D., that honor fell to Margaret Floy Washburn, who later wrote an influential book, *The Animal Mind*, and became the second female APA president in 1921. Although Washburn's thesis was the first foreign study Wundt published in his journal, her gender meant she was barred from joining the organization of **experimental psychologists** (who explore behavior and thinking with experiments), despite its being founded by Titchener, her own graduate adviser (Johnson, 1997). What a different world from the recent past—1996 to 2013—when women claimed two-thirds or more of new U.S. psychology Ph.D.s and were 9 of the 18 elected presidents of the science-oriented Association for Psychological Science. In Canada and Europe, too, most recent psychology doctorates have been earned by women.

experimental psychology the study of behavior and thinking using the experimental method.

James' influence reached even further through his dozens of well-received articles, which moved the publisher Henry Holt to offer a contract for a textbook of the new science of psychology. James agreed and began work in 1878, with an apology for requesting two years to finish his writing. The text proved an unexpected chore and actually took him 12 years. (Why am I not surprised?) More than a century later, people still read the resulting *Principles of Psychology* and marvel at the brilliance and elegance with which James introduced psychology to the educated public.

Psychological Science Develops

How did psychology continue to develop from the 1920s through today?

In psychology's early days, Wundt and Titchener focused on inner sensations, images, and feelings. James, too, engaged in introspective examination of the stream of consciousness and of emotion. Sigmund Freud emphasized the ways emotional responses to childhood experiences and our unconscious thought processes affect our behavior. Thus, until the 1920s, *psychology* was defined as "the science of mental life."

AP® Exam Tip

There are lots of important people in psychology. As you study, focus on the significance of their accomplishments. You are more likely to be tested on what a finding means than who discovered it.

John B. Watson and Rosalie Rayner Working with Rayner, Watson championed psychology as the science of behavior and demonstrated conditioned responses on a baby who became famous as "Little Albert." (More about Watson's controversial study in Module 26.)

And so it continued until the 1920s, when the first of two larger-than-life American psychologists appeared on the scene. Flamboyant and provocative John B. Watson, and later the equally provocative B. F. Skinner, dismissed introspection and redefined *psychology* as "the scientific study of observable behavior." After all, they said, science is rooted in observation. You cannot observe a sensation, a feeling, or a thought, but you *can* observe and record people's *behavior* as they respond to different situations. They further suggested that our behavior is influenced by learned associations, through a process called *conditioning.* Many agreed, and the **behaviorists** were one of two major forces in psychology well into the 1960s. (More on these psychologists in Modules 26–30.)

behaviorism the view that psychology (1) should be an objective science that (2) studies behavior without reference to mental processes. Most research psychologists today agree with (1) but not with (2).

The other major force was *Freudian psychology,* which emphasized the ways our unconscious thought processes and our emotional responses to childhood experiences affect our behavior. (In modules to come, we'll look more closely at Sigmund Freud's teachings, including his theory of personality and his views on unconscious sexual conflicts and the mind's defenses against its own wishes and impulses. We will also study the *psychodynamic approach,* which is the updated, modern-day version of Freud's ideas.)

humanistic psychology a historically significant perspective that emphasized the growth potential of healthy people.

As the behaviorists had done in the early 1900s, two other groups rejected the definition of psychology that was current in the 1960s. The first, the **humanistic psychologists,** led by Carl Rogers and Abraham Maslow, found both Freudian psychology and behaviorism too limiting. Rather than focusing on the meaning of early childhood memories or the learning of conditioned responses, the humanistic psychologists drew attention to ways that current environmental influences can nurture or limit our growth potential, and to the importance of having our needs for love and acceptance satisfied. (More on this in Module 57.)

B. F. Skinner A leading behaviorist, Skinner rejected introspection and studied how consequences shape behavior.

Sigmund Freud The controversial ideas of this famed personality theorist and therapist have influenced humanity's self-understanding.

The rebellion of a second group of psychologists during the 1960s is now known as the *cognitive revolution,* and it led the field back to its early interest in mental processes, such as the importance of how our mind processes and retains information. Cognitive psychology scientifically explores the ways we perceive, process, and remember information. **Cognitive neuroscience,** an interdisciplinary study, has enriched our understanding of the brain activity underlying mental activity. The cognitive approach has given us new ways to understand ourselves and to treat disorders such as depression, as we shall see in Module 71.

cognitive neuroscience the interdisciplinary study of the brain activity linked with cognition (including perception, thinking, memory, and language).

psychology the science of behavior and mental processes.

To encompass psychology's concern with observable behavior *and* with inner thoughts and feelings, today we define **psychology** as the *science of behavior and mental processes.* Let's unpack this definition. *Behavior* is anything an organism *does*—any action we can observe and record. Yelling, smiling, blinking, sweating, talking, and questionnaire marking are all observable behaviors. *Mental processes* are the internal, subjective experiences we infer from behavior—sensations, perceptions, dreams, thoughts, beliefs, and feelings.

The key word in psychology's definition is *science.* Psychology, as I will emphasize throughout this book, is less a set of findings than a way of asking and answering questions. My aim, then, is not merely to report results but also to show you how psychologists play their game. You will see how researchers evaluate conflicting opinions and ideas. And you will learn how all of us, whether scientists or simply curious people, can think smarter when describing and explaining the events of our lives.

Before You Move On

▶ ASK YOURSELF

How do you think psychology might change as more and more women contribute their ideas to the field?

▶ TEST YOURSELF

What event defined the founding of modern scientific psychology?

Answers to the Test Yourself questions can be found in Appendix E at the end of the book.

AP® Exam Tip

Memory research reveals a *testing effect:* We retain information much better if we actively retrieve it by self-testing and rehearsing. (More on this in the Close-up box at the end of Module 2.) To bolster your learning and memory, take advantage of all the self-testing opportunities you'll find throughout this text. These "Before You Move On" sections will appear at the end of each main section of text. The *Ask Yourself* questions will help you make the material more meaningful to your own life (and therefore more memorable). You can check your answers to the *Test Yourself* review questions in Appendix E at the end of the book.

Module 1 Review

How did psychology develop from its prescientific roots in early understandings of mind and body to the beginnings of modern science?

- Psychology traces its roots back through recorded history to India, China, the Middle East, and Europe. Buddha and Confucius focused on the power and origin of ideas. The ancient Hebrews, Socrates, Plato, and Aristotle pondered whether mind and body are connected or distinct, and whether human ideas are innate or result from experience.
- Descartes and Locke reengaged those ancient debates, with Locke offering his famous description of the mind as a "blank slate" on which experience writes. The ideas of Bacon and Locke contributed to the development of modern *empiricism.*

What are some important milestones in psychology's early development?

- Wilhelm Wundt established the first psychological laboratory in 1879 in Germany.
- Two early schools of psychology were *structuralism* and *functionalism.*
- Structuralism, promoted by Wundt and Titchener, used self-reflection to learn about the mind's structure. Functionalism, promoted by James, explored how behavior and thinking function.

How did psychology continue to develop from the 1920s through today?

- Early researchers defined *psychology* as a "science of mental life."

- In the 1920s, under the influence of John B. Watson and the *behaviorists,* the field's focus changed to the "scientific study of observable behavior."
- In the 1960s, the *humanistic psychologists* and the *cognitive psychologists* revived interest in the study of mental processes.
- Psychology is now defined as the science of behavior and mental processes.

Multiple-Choice Questions*

1. By seeking to measure "atoms of the mind," who established the first psychology laboratory?

a. Sigmund Freud
b. John B. Watson
c. Wilhelm Wundt
d. G. Stanley Hall
e. William James

2. Which philosopher proposed that nerve pathways allowed for reflexes?

a. Socrates
b. René Descartes
c. John Locke
d. Aristotle
e. Plato

3. Who coined the term "tabula rasa" (blank slate) to help explain the impact experience has on shaping an individual?

a. Francis Bacon
b. René Descartes
c. John B. Watson
d. Sigmund Freud
e. John Locke

4. Which of the following best describes research typical of Wilhelm Wundt's first psychology laboratory?

a. Examining the unconscious to determine behavior motivation
b. Using a brain-scanning device to determine the impact events have on brain function
c. Measuring the reaction time between hearing a sound and pressing a button
d. Studying helping behavior, based on the premise that people are good
e. Examining how collective life experiences combine to create individuality

5. With which of the following statements would John B. Watson most likely agree?

a. Psychology should study the growth potential in all people.
b. Psychology should study the unconscious.
c. Psychology should focus on observable behavior.
d. Psychology should study mental thought processes.
e. Psychology should study how culture and beliefs impact an individual.

Practice FRQs**

1. The definition of psychology changed as the field evolved during the early years. Why did John B. Watson object to the definition preferred by Wundt, Titchener, and James? What group of psychologists did Watson's ideas influence? How did Watson redefine psychology?

Answer

1 point: Watson objected to the "science of mental life" because he felt it was impossible to be scientific without observation.

1 point: Watson's ideas influenced the behaviorists.

1 point: Watson preferred limiting psychology to behavior, because behavior could be observed and scientifically analyzed.

2. Identify the founder of structuralism, and explain structuralism's four foundational concepts.

(6 points)

**Note: If you are a student using these Multiple-Choice Questions for self-testing, please consult with your teacher to check your answers.*

** "FRQ" stands for "Free-Response Question." The AP® exam contains two of these essay-style questions, which count for one-third of your final score. The actual FRQs will be complex, requiring you to integrate knowledge from across multiple modules, like the practice questions you will find at the end of each *unit* in this text. These simpler "Practice FRQs" that appear at the end of each *module,* along with a sample grading rubric, will help you get started practicing this skill.

Module 2

Psychology's Big Issues and Approaches

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Module Learning Objectives

2-1 Summarize the nature–nurture debate in psychology.

2-2 Describe psychology's three main levels of analysis and related perspectives.

2-3 Identify psychology's main subfields.

2-4 Explain how psychological principles can help you learn and remember, and do better on the AP® exam.

The young science of psychology developed from the more established fields of philosophy and biology. Wundt was both a philosopher and a physiologist. James was an American philosopher. Freud was an Austrian physician. Ivan Pavlov, who pioneered the study of learning (Module 26), was a Russian physiologist. Jean Piaget, the last century's most influential observer of children (Module 47), was a Swiss biologist. These "Magellans of the mind," as Morton Hunt (1993) has called them, illustrate psychology's origins in many disciplines and many countries.

Like those early pioneers, today's psychologists are citizens of many lands. The International Union of Psychological Science has 71 member nations, from Albania to Zimbabwe. In China, the first university psychology department began in 1978; by 2008 there were nearly 200 (Han, 2008; Tversky, 2008). Moreover, thanks to international publications, joint meetings, and the Internet, collaboration and communication now cross borders. Psychology is *growing* and it is *globalizing*. The story of psychology—the subject of this book—continues to develop in many places, at many levels, with interests ranging from the study of nerve cell activity to the study of international conflicts.

Across the world, psychologists are debating enduring issues, viewing behavior from the differing perspectives offered by the subfields in which they teach, work, and do research.

AP® Exam Tip

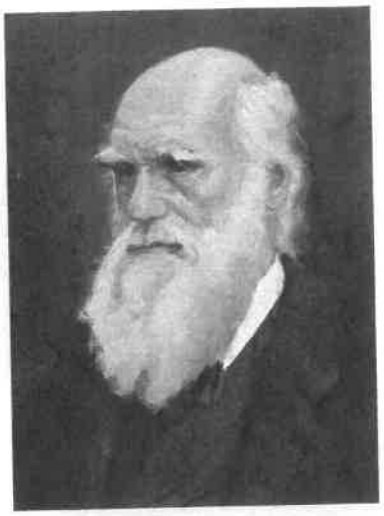
Pay close attention to what David Myers, your author, is emphasizing as he tells the story of psychology. When he says the nature–nurture issue is the *biggest* question in psychology, that's a sign. It's a safe bet that this concept will be covered on the AP® exam.

Psychology's Biggest Question

2-1 What is psychology's historic big issue?

Are our human traits present at birth, or do they develop through experience? This has been psychology's biggest and most persistent issue. As we have seen, the debate over the **nature–nurture issue** is ancient. The ancient Greeks debated this, with Plato assuming that we

nature–nurture issue the longstanding controversy over the relative contributions that genes and experience make to the development of psychological trai and behaviors. Today's science see traits and behaviors arising from t interaction of nature and nurture.



Charles Darwin Darwin argued that natural selection shapes behaviors as well as bodies.

inherit character and intelligence and that certain ideas are also inborn, and Aristotle countering that there is nothing in the mind that does not first come in from the external world through the senses.

In the 1600s, philosophers rekindled the debate. Locke rejected the notion of inborn ideas, suggesting that the mind is a blank slate on which experience writes. Descartes disagreed, believing that some ideas are innate. Descartes' views gained support from a curious naturalist two centuries later. In 1831, an indifferent student but ardent collector of beetles, mollusks, and shells set sail on a historic round-the-world journey. The 22-year-old voyager, Charles Darwin, pondered the incredible species variation he encountered, including tortoises on one island that differed from those on nearby islands. Darwin's 1859 *On the Origin of Species* explained this diversity by proposing the evolutionary process of **natural selection:** From among chance variations, nature selects traits that best enable an organism to survive and reproduce in a particular environment. Darwin's principle of natural selection—what philosopher Daniel Dennett (1996) has called "the single best idea anyone has ever had"—is still with us 150+ years later as biology's organizing principle. Evolution also has become an important principle for twenty-first-century psychology. This would surely have pleased Darwin, for he believed his theory explained not only animal structures (such as a polar bear's white coat) but also animal behaviors (such as the emotional expressions associated with human lust and rage).

natural selection the principle that, among the range of inherited trait variations, those contributing to reproduction and survival will most likely be passed on to succeeding generations.

The nature–nurture issue recurs throughout this text as today's psychologists explore the relative contributions of biology and experience, asking, for example, how we humans are alike (because of our common biology and evolutionary history) and diverse (because of our differing environments). Are gender differences biologically predisposed or socially constructed? Is children's grammar mostly innate or formed by experience? How are intelligence and personality differences influenced by heredity and by environment? Are sexual behaviors more "pushed" by inner biology or "pulled" by external incentives? Should we treat psychological disorders—depression, for example—as disorders of the brain, disorders of thought, or both?

Such debates continue. Yet over and over again we will see that in contemporary science the nature–nurture tension dissolves: *Nurture works on what nature endows.* Our species is biologically endowed with an enormous capacity to learn and adapt. Moreover, every psychological event (every thought, every emotion) is simultaneously a biological event. Thus, depression can be both a brain disorder and a thought disorder.

A nature-made nature–nurture experiment Because identical twins have the same genes, they are ideal participants in studies designed to shed light on hereditary and environmental influences on intelligence, personality, and other traits. Studies of identical and fraternal twins provide a rich array of findings—described in later modules—that underscore the importance of both nature and nurture.

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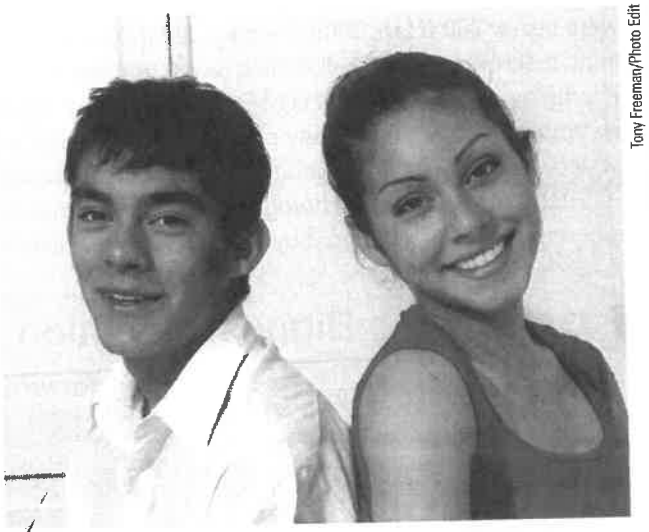

Tony Freeman/Photo Edit

Psychology's Three Main Levels of Analysis

2-2 What are psychology's levels of analysis and related perspectives?

Each of us is a complex system that is part of a larger social system. But each of us is also composed of smaller systems, such as our nervous system and body organs, which are composed of still smaller systems—cells, molecules, and atoms.

These tiered systems suggest different **levels of analysis,** which offer complementary outlooks. It's like explaining why horrific school shootings have occurred. Is it because the shooters have brain disorders or genetic tendencies that cause them to be violent? Because they have been rewarded for violent behavior? Because we, in the United States, live in a gun-promoting society that accepts violence? Such perspectives are complementary because "everything is related to everything else" (Brewer, 1996). Together, different levels of analysis form an integrated **biopsychosocial approach,** which considers the influences of biological, psychological, and social-cultural factors (**FIGURE 2.1**).

levels of analysis the differing complementary views, from biological to psychological to social-cultural, for analyzing any given phenomenon.

biopsychosocial approach an integrated approach that incorporates biological, psychological, and social-cultural levels of analysis.

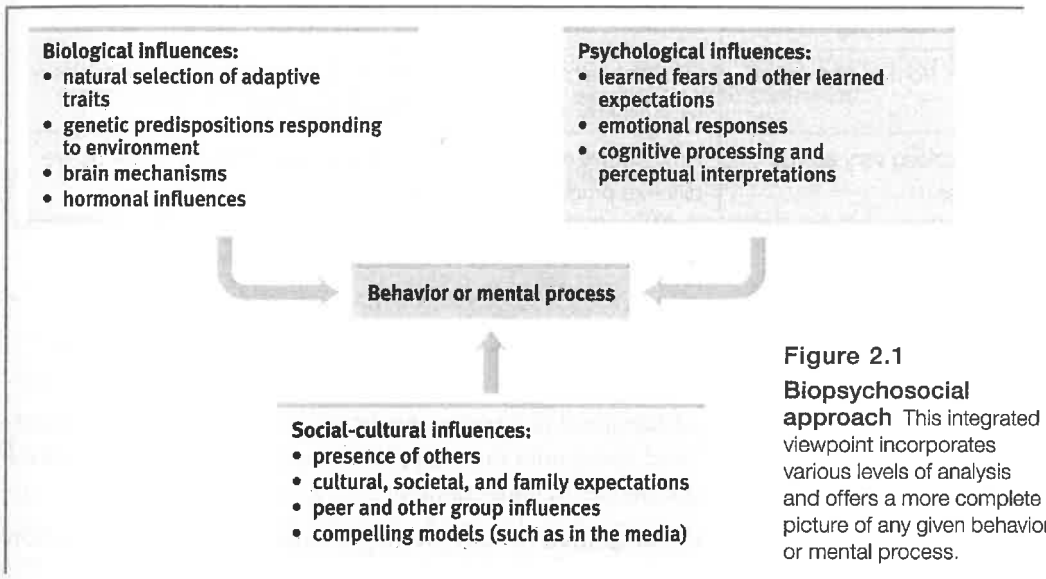

Figure 2.1
Biopsychosocial approach This integrated viewpoint incorporates various levels of analysis and offers a more complete picture of any given behavior or mental process.

AP® Exam Tip

You will see versions of Figure 2.1 throughout the text. Spend some time right now familiarizing yourself with how the figure's three corners might contribute to behavior or mental processes, the very stuff of psychology.

Each level provides a valuable vantage point for looking at a behavior or mental process, yet each by itself is incomplete. Like different academic disciplines, psychology's varied approaches, or perspectives, ask different questions and have their own limits. One perspective may stress the biological, psychological, or social-cultural level more than another, but the different perspectives described in **TABLE 2.1** on the next page complement one another. Consider, for example, how they shed light on anger.

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Views of anger How would each of psychology's levels of analysis explain what's going on here?

Table 2.1 Psychology's Approaches

Perspective	Focus	Sample Questions
Behavioral	How we learn observable responses	How do we learn to fear particular objects or situations? What is the most effective way to alter our behavior, say, to lose weight?
Biological	How the body and brain enable emotions, memories, and sensory experiences; how genes combine with environment to influence individual differences	How do pain messages travel from the hand to the brain? How is blood chemistry linked with moods and motives? To what extent are traits such as intelligence, personality, sexual orientation, and depression attributable to our genes? To our environment?
Cognitive	How we encode, process, store, and retrieve information	How do we use information in remembering? Reasoning? Solving problems?
Evolutionary	How the natural selection of traits has promoted the survival of genes	How does evolution influence behavior tendencies?
Humanistic	How we meet our needs for love and acceptance and achieve self-fulfillment	How can we work toward fulfilling our potential? How can we overcome barriers to our personal growth?
Psychodynamic	How behavior springs from unconscious drives and conflicts	How can someone's personality traits and disorders be explained by unfulfilled wishes and childhood traumas?
Social-cultural	How behavior and thinking vary across situations and cultures	How are we alike as members of one human family? How do we differ as products of our environment?

AP® Exam Tip

These perspectives will come up again and again throughout your AP® Psychology course, and they *will* be on the exam. You need to become very comfortable with the meaning of terms like cognitive, behavioral, and psychodynamic. Ask your teacher for clarification if you are the least bit unclear about what the perspectives mean.

- Someone working from the **behavioral** perspective might attempt to determine which external stimuli trigger angry responses or aggressive acts.
- Someone working from a **biological** perspective might study brain circuits that cause us to be "red in the face" and "hot under the collar," or how heredity and experience influence our individual differences in temperament.
- Someone working from the **cognitive** perspective might study how our interpretation of a situation affects our anger and how our anger affects our thinking.
- Someone working from the **evolutionary** perspective might analyze how anger facilitated the survival of our ancestors' genes.
- Someone working from the *humanistic* perspective (a historically important approach) might have been interested in understanding how angry feelings affect a person's potential for growth. As we will see, modern-day *positive psychology* incorporates humanistic psychology's emphasis on human flourishing.
- Someone working from the **psychodynamic** perspective (which evolved from Freud's psychoanalysis) might view an outburst as an outlet for unconscious hostility.
- Someone working from the **social-cultural** perspective might explore how expressions of anger vary across cultural contexts.

The point to remember: Like two-dimensional views of a three-dimensional object, each of psychology's perspectives is helpful. But each by itself fails to reveal the whole picture.

behavioral psychology the scientific study of observable behavior, and its explanation by principles of learning.

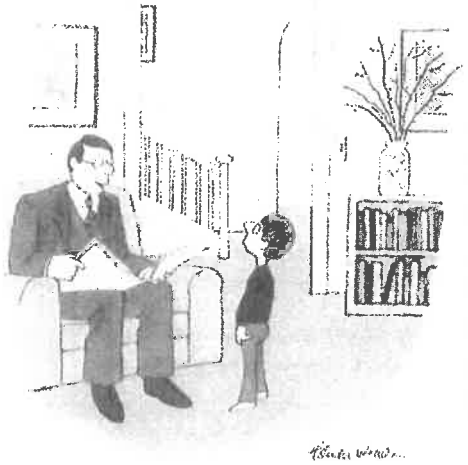
biological psychology the scientific study of the links between biological (genetic, neural, hormonal) and psychological processes. (Some biological psychologists call themselves *behavioral neuroscientists, neuropsychologists, behavior geneticists, physiological psychologists,* or *biopsychologists.*)

Psychology's Subfields

2-3 What are psychology's main subfields?

Picturing a chemist at work, you probably envision a white-coated scientist surrounded by glassware and high-tech equipment. Picture a psychologist at work and you would be right to envision

- a white-coated scientist probing a rat's brain.
- an intelligence researcher measuring how quickly an infant shows boredom by looking away from a familiar picture.
- an executive evaluating a new "healthy lifestyles" training program for employees.
- someone at a computer analyzing data on whether adopted teens' temperaments more closely resemble those of their adoptive parents or their biological parents.
- a therapist listening carefully to a a client's depressed thoughts.
- a researcher visiting another culture and collecting data on variations in human values and behaviors.
- a teacher or writer sharing the joy of psychology with others.



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"I'm a social scientist, Michael. That means I can't explain electricity or anything like that, but if you ever want to know about people I'm your man."

The cluster of subfields we call psychology is a meeting ground for different disciplines. "Psychology is a hub scientific discipline," said Association for Psychological Science president John Cacioppo (2007). Thus, it's a perfect home for those with wide-ranging interests. In its diverse activities, from biological experimentation to cultural comparisons, the tribe of psychology is united by a common quest: *describing and explaining behavior and the mind underlying it.* There is even a branch of psychology devoted to studying the measurement of our abilities, attitudes, and traits: **psychometrics.**

cognitive psychology the scientific study of all the mental activities associated with thinking, knowing, remembering, and communicating.

evolutionary psychology the study of the evolution of behavior and mind, using principles of natural selection.

psychodynamic psychology a branch of psychology that studies how unconscious drives and conflicts influence behavior, and uses that information to treat people with psychological disorders.

social-cultural psychology the study of how situations and cultures affect our behavior and thinking.

psychometrics the scientific study of the measurement of human abilities, attitudes, and traits.

Laura Dwight

I see you! A biological psychologist might view this child's delighted response as evidence of brain maturation. A cognitive psychologist might see it as a demonstration of the baby's growing knowledge of his surroundings. For a social-cultural psychologist, the role of grandparents in different societies might be the issue of interest. As you will see throughout this book, these and other perspectives offer complementary views of behavior.

BSIP SA/Alamy

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Mary Kate Denny/Photo Edit

Psychology: A science and a profession Psychologists experiment with, observe, test, and treat behavior. Here we see psychologists testing a child, measuring emotion-related physiology, and doing group therapy.

basic research pure science that aims to increase the scientific knowledge base.

developmental psychology a branch of psychology that studies physical, cognitive, and social change throughout the life span.

educational psychology the study of how psychological processes affect and can enhance teaching and learning.

personality psychology the study of an individual's characteristic pattern of thinking, feeling, and acting.

social psychology the scientific study of how we think about, influence, and relate to one another.

AP® Exam Tip

Take careful note of the fact that psychiatry is a medical specialty and not a part of psychology. Can you summarize the similarities and differences among counseling psychologists, clinical psychologists, and psychiatrists?

Some psychologists conduct **basic research** that builds psychology's knowledge base. In the pages that follow we will meet a wide variety of such researchers, including

- *biological psychologists* exploring the links between brain and mind.
- **developmental psychologists** studying our changing abilities from womb to tomb.
- *cognitive psychologists* experimenting with how we perceive, think, and solve problems.
- **educational psychologists** studying influences on teaching and learning.
- **personality psychologists** investigating our persistent traits.
- **social psychologists** exploring how we view and affect one another.

(Read on to the next module for a more complete list of what psychologists in various professions do and where they work.)

These and other psychologists also may conduct **applied research,** tackling practical problems. **Industrial-organizational (I/O) psychologists,** for example, use psychology's concepts and methods in the workplace to help organizations and companies select and train employees, boost morale and productivity, design products, and implement systems. Within that domain, **human factors psychologists** focus on the interaction of people, machines, and physical environments. (More on this subject in Enrichment Module 82.)

Although most psychology textbooks focus on psychological science, psychology is also a helping profession devoted to such practical issues as how to have a happy marriage, how to overcome anxiety or depression, and how to raise thriving children. As a science, psychology at its best bases such interventions on *evidence of effectiveness.* **Counseling psychologists** help people to cope with challenges and crises (including academic, vocational, and marital issues) and to improve their personal and social functioning. **Clinical psychologists** assess and treat mental, emotional, and behavior disorders. Both counseling and clinical psychologists administer and interpret tests, provide counseling and therapy, and sometimes conduct basic and applied research. By contrast, **psychiatrists,** who also may provide psychotherapy, are medical doctors licensed to prescribe drugs and otherwise treat physical causes of psychological disorders.

We will study the history of therapy, including the role of pioneering Dorothea Dix, in the Therapy unit. Reformers such as Dix and Philippe Pinel led the way to humane treatment of those with psychological disorders.

To balance historic psychology's focus on human problems, Martin Seligman and others (2002, 2005, 2011) have called for more research on human strengths and human flourishing.

Their **positive psychology** scientifically explores "positive emotions, positive character traits, and enabling institutions." What, they ask, can psychology contribute to a "good life" that engages one's skills, and a "meaningful life" that points beyond oneself?

Dorothea Dix (1802–1887)
"I . . . call your attention to the state of the Insane Persons confined within this Commonwealth, in cages."

Rather than seeking to change people to fit their environment, **community psychologists** work to create social and physical environments that are healthy for all (Bradshaw et al., 2009; Trickett, 2009). For example, if school bullying is a problem, some psychologists will seek to change the bullies. Knowing that many students struggle with the transition from elementary to middle school, they might train individual kids how to cope. Community psychologists instead seek ways to adapt the school experience to early adolescent needs. To prevent bullying, they might study how the school and neighborhood foster bullying.

With perspectives ranging from the biological to the social, and with settings from the laboratory to the clinic, psychology relates to many fields. As we will see in Module 3, psychologists teach in medical schools, law schools, and high schools, and they work in hospitals, factories, and corporate offices. They engage in interdisciplinary studies, such as psychohistory (the psychological analysis of historical characters), psycholinguistics (the study of language and thinking), and psychoceramics (the study of crackpots).[1]

Psychology also influences modern culture. Knowledge transforms us. Learning about the solar system and the germ theory of disease alters the way people think and act. Learning about psychology's findings also changes people: They less often judge psychological disorders as moral failings, treatable by punishment and ostracism. They less often regard and treat women as men's mental inferiors. They less often view and rear children as ignorant, willful beasts in need of taming. "In each case," noted Morton Hunt (1990, p. 206), "knowledge has modified attitudes, and, through them, behavior." Once aware of psychology's well-researched ideas—about how body and mind connect, how a child's mind grows, how we construct our perceptions, how we remember (and misremember) our experiences, how people across the world differ (and are alike)—your mind may never again be quite the same.

But bear in mind psychology's limits. Don't expect it to answer the ultimate questions, such as those posed by Russian novelist Leo Tolstoy (1904): "Why should I live? Why should I do anything? Is there in life any purpose which the inevitable death that awaits me does not undo and destroy?"

Although many of life's significant questions are beyond psychology, some very important ones are illuminated by even a first psychology course. Through painstaking research, psychologists have gained insights into brain and mind, dreams and memories, depression and joy. Even the unanswered questions can renew our sense of mystery about "things too wonderful" for us yet to understand. And, as you will see in Modules 4–8, your study of psychology can help teach you how to ask and answer important questions—how to think critically as you evaluate competing ideas and claims.

Psychology deepens our appreciation for how we humans perceive, think, feel, and act. By so doing, it can indeed enrich our lives and enlarge our vision. Throughout this book I hope to help guide you toward that end. As educator Charles Eliot said a century ago: "Books are the quietest and most constant of friends, and the most patient of teachers."

applied research scientific study that aims to solve practical problems.

industrial-organizational (I/O) psychology the application of psychological concepts and methods to optimizing human behavior in workplaces.

human factors psychology an I/O psychology subfield that explores how people and machines interact and how machines and physical environments can be made safe and easy to use.

counseling psychology a branch of psychology that assists people with problems in living (often related to school, work, or marriage) and in achieving greater well-being.

clinical psychology a branch of psychology that studies, assesses, and treats people with psychological disorders.

psychiatry a branch of medicine dealing with psychological disorders; practiced by physicians who sometimes provide medical (for example, drug) treatments as well as psychological therapy.

positive psychology the scientific study of human functioning, with the goals of discovering and promoting strengths and virtues that help individuals and communities to thrive.

community psychology a branch of psychology that studies how people interact with their social environments and how social institutions affect individuals and groups.

"Once expanded to the dimensions of a larger idea, [the mind] never returns to its original size." -Oliver Wendell Holmes, 1809–1894

[1]Confession: I wrote the last part of this sentence on April Fools' Day.

Module 3

Careers in Psychology

REN ZHENGLAI/Xinhua/Landov

Module Learning Objective

3-1 Describe what psychologists in various professions do and where they work.

This module was written by Jennifer Zwolinski, Associate Professor of Psychology at the University of San Diego.

AP® Exam Tip

You are about to read about a lot of career possibilities in psychology. Note the division between basic subfields and applied subfields. The work of some of these specialties is pretty obvious (it's not that hard to figure out in general what an educational psychologist or a health psychologist might do). Devote extra attention to those specialties that may be unfamiliar to you.

3-1 What do psychologists in various professions do, and where do they work?

What can you do with a college degree in psychology? Lots!

If you major in psychology, you will graduate with a scientific mind-set and an awareness of basic principles of human behavior (biological mechanisms, development, cognition, psychological disorders, social interaction). This background will prepare you for success in many areas, including business, the helping professions, health services, marketing, law, sales, and teaching. You may even go on to graduate school for specialized training to become a psychology professional. This module describes psychology's specialized subfields. Appendix D, Preparing for Further Psychology Studies, provides tips for preparing to earn a bachelor's, master's, or doctoral degree in psychology, with information about the career options that become available at those varying levels of education.

If you are like most students, you may be unaware of the wide variety of specialties and work settings available in psychology (Terre & Stoddart, 2000). To date, the American Psychological Association (APA) has formed 56 divisions. Let's look at some of the basic research, applied research, and helping profession careers (arranged alphabetically) in the main specialty areas of psychology, most of which require a graduate degree in psychology.

Karen Moskowitz/Getty Images

Consulting psychologist Cognitive psychologists may advise businesses on how to operate more effectively by understanding the human factors involved.

Basic Research Subfields

COGNITIVE PSYCHOLOGISTS study thought processes and focus on such topics as perception, language, attention, problem solving, memory, judgment and decision making, forgetting, and intelligence. Research interests include designing computer-based models of thought processes and identifying biological correlates of cognition. As a cognitive psychologist, you might work as a professor, industrial consultant, or human factors specialist in an educational or business setting.

DEVELOPMENTAL PSYCHOLOGISTS conduct research on age-related behavioral changes and apply their scientific knowledge to educational, child-care, policy, and related settings. As a developmental psychologist, you would investigate change across a broad range of topics, including the biological, psychological, cognitive, and social aspects of development. Developmental psychology informs a number of applied fields, including educational psychology, school psychology, child psychopathology, and gerontology. The field also informs public policy in areas such as education and child-care reform, maternal and child health, and attachment and adoption. You would probably specialize in a specific stage of the life span, such as infancy, childhood, adolescence, or middle or late adulthood. Your work setting could be an educational institution, day-care center, youth group program, or senior center.

EDUCATIONAL PSYCHOLOGISTS are interested in the psychological processes involved in learning. They study the relationship between learning and physical and social environments, and they develop strategies for enhancing the learning process. As an educational psychologist, working in a university psychology department or school of education, you might conduct basic research on topics related to learning or develop innovative methods of teaching to enhance the learning process. You might design effective tests, including measures of aptitude and achievement. You might be employed by a school or government agency or charged with designing and implementing effective employee-training programs in a business setting.

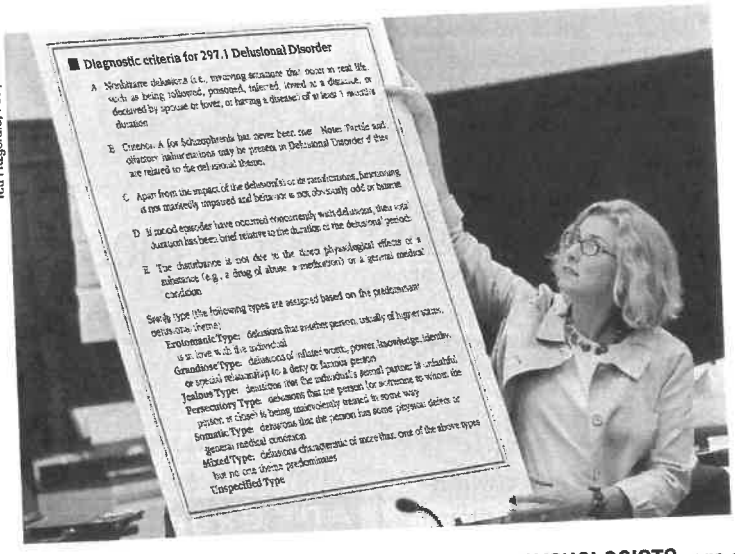
AP® Exam Tip

Educational psychologists apply psychology's findings in an effort to improve learning, and *school psychologists* assess and assist individual schoolchildren.

EXPERIMENTAL PSYCHOLOGISTS are a diverse group of scientists who investigate a variety of basic behavioral processes in humans and other animals. Prominent areas of experimental research include comparative methods of science, motivation, learning, thought, attention, memory, perception, and language. Most experimental psychologists identify with a particular subfield, such as cognitive psychology, depending on their interests and training. It is important to note that experimental research methods are not limited to the field of experimental psychology; many other subfields rely on experimental methodology to conduct studies. As an experimental psychologist, you would most likely work in an academic setting, teaching courses and supervising students' research in addition to conducting your own research. Or you might be employed by a research institution, zoo, business, or government agency.

PSYCHOMETRIC AND QUANTITATIVE PSYCHOLOGISTS study the methods and techniques used to acquire psychological knowledge. A psychometrician may update existing neurocognitive or personality tests or devise new tests for use in clinical and school settings or in business and industry. These psychologists also administer, score, and interpret such tests. Quantitative psychologists collaborate with researchers to design, analyze, and interpret the results of research programs. As a psychometric or quantitative psychologist, you will need to be well trained in research methods, statistics, and computer technology. You will most likely be employed by a university or college, testing company, private research firm, or government agency.

SOCIAL PSYCHOLOGISTS are interested in our interactions with others. Social psychologists study how our beliefs, feelings, and behaviors are affected by and influence other people. They study topics such as attitudes, aggression, prejudice, interpersonal attraction, group behavior, and leadership. As a social psychologist, you would probably be a college or university faculty member. You might also work in organizational consultation, market research, or other applied psychology fields, including social neuroscience. Some social psychologists work for hospitals, federal agencies, or businesses performing applied research.



Ted Fitzgerald, Pool/AP Photo

Psychology in court Forensic psychologists apply psychology's principles and methods in the criminal justice system. They may assess witness credibility or testify in court on a defendant's state of mind and future risk.

Applied Research Subfields

FORENSIC PSYCHOLOGISTS apply psychological principles to legal issues. They conduct research on the interface of law and psychology, help to create public policies related to mental health, help law-enforcement agencies in criminal investigations, or consult on jury selection and deliberation processes. They also provide assessment to assist the legal community. Although most forensic psychologists are clinical psychologists, they might have expertise in other areas of psychology, such as social or cognitive psychology. Some also hold law degrees. As a forensic psychologist, you might work in a university psychology department, law school, research organization, community mental health agency, law-enforcement agency, court, or correctional setting.

HEALTH PSYCHOLOGISTS are researchers and practitioners concerned with psychology's contribution to promoting health and preventing disease. As applied psychologists or clinicians, they may help individuals lead healthier lives by designing, conducting, and evaluating programs to stop smoking, lose weight, improve sleep, manage pain, prevent the spread of sexually transmitted infections, or treat psychosocial problems associated with chronic and terminal illnesses. As researchers and clinicians, they identify conditions and practices associated with health and illness to help create effective interventions. In public service, health psychologists study and work to improve government policies and health care systems. As a health psychologist, you could be employed in a hospital, medical school, rehabilitation center, public health agency, college or university, or, if you are also a clinical psychologist, in private practice.

INDUSTRIAL-ORGANIZATIONAL (I/O) PSYCHOLOGISTS study the relationship between people and their working environments. They may develop new ways to increase productivity, improve personnel selection, or promote job satisfaction in an organizational setting. Their interests include organizational structure and change, consumer behavior, and personnel selection and training. As an I/O psychologist, you might conduct workplace training or provide organizational analysis and development. You may find yourself working in business, industry, the government, or a college or university. Or you may be self-employed as a consultant or work for a management consulting firm.

NEUROPSYCHOLOGISTS investigate the relationship between neurological processes (structure and function of the nervous system) and behavior. As a neuropsychologist you might assess, diagnose, or treat central nervous system disorders, such as Alzheimer's disease or stroke. You might also evaluate individuals for evidence of head injuries; learning and developmental disabilities, such as autism spectrum disorder; and other psychiatric disorders, such as attention-deficit/hyperactivity disorder (ADHD). If you are a *clinical neuropsychologist*, you might work in a hospital's neurology, neurosurgery, or psychiatric unit. Neuropsychologists also work in academic settings, where they conduct research and teach.

REHABILITATION PSYCHOLOGISTS are researchers and practitioners who work with people who have lost optimal functioning after an accident, illness, or other event. As a rehabilitation psychologist, you would probably work in a medical rehabilitation institution or hospital. You might also work in a medical school, university, state or federal vocational rehabilitation agency, or in private practice serving people with physical disabilities.

SCHOOL PSYCHOLOGISTS are involved in the assessment of and intervention for children in educational settings. They diagnose and treat cognitive, social, and emotional problems that may negatively influence children's learning or overall functioning at school. As a school psychologist, you would collaborate with teachers, parents, and administrators, making recommendations to improve student learning. You could work in an academic setting, a federal or state government agency, a child guidance center, or a behavioral research laboratory.

Spencer Grant/Photo Edit

Class counselor School psychologists, who have their master degree in psychology, may find themselves working with students individually or in groups, as well as in a consultative role for their school's administrators.

SPORT PSYCHOLOGISTS study the psychological factors that influence, and are influenced by, participation in sports and other physical activities. Their professional activities include coach education and athlete preparation, as well as research and teaching. Sport psychologists who also have a clinical or counseling degree can apply those skills to working with individuals with psychological problems, such as anxiety or substance abuse, that might interfere with optimal performance. As a sport psychologist, if you were not working in an academic or research setting, you would most likely work as part of a team or organization, or in a private capacity.

Phil Walter/Getty Images

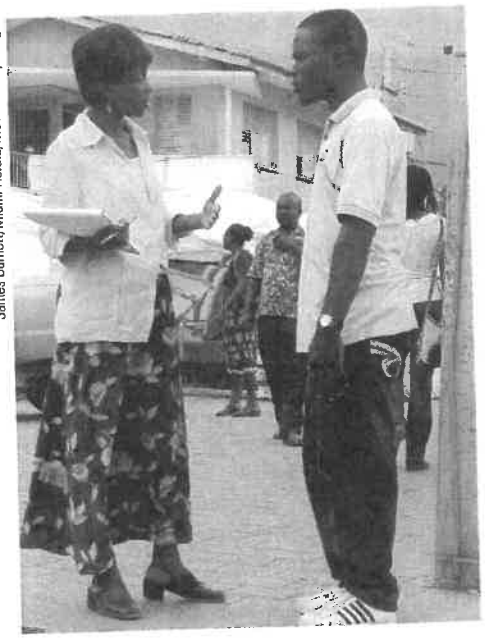
Athlete assistance Sport psychologists often work directly with athletes to help them improve their performance.

The Helping Professions

CLINICAL PSYCHOLOGISTS promote psychological health in individuals, groups, and organizations. Some clinical psychologists specialize in specific psychological disorders. Others treat a range of disorders, from adjustment difficulties to severe psychopathology. Clinical psychologists might engage in research, teaching, assessment, and consultation. Some hold workshops and lectures on psychological issues for other professionals or for the public. Clinical psychologists work in a variety of settings, including private practice, mental health service organizations, schools, universities, industries, legal systems, medical systems, counseling centers, government agencies, and military services.

To become a clinical psychologist, you will need to earn a doctorate from a clinical psychology program. The APA sets the standards for clinical psychology graduate programs, offering accreditation (official recognition) to those who meet their standards. In all U.S. states, clinical psychologists working in independent practice must obtain a license to offer services such as therapy and testing.

COMMUNITY PSYCHOLOGISTS move beyond focusing on specific individuals or families and deal with broad problems of mental health in community settings. These psychologists believe that human behavior is powerfully influenced by the interaction between people and their physical, social, political, and economic environments. They seek to promote psychological health by enhancing environmental settings, focusing on preventive measures and crisis intervention, with special attention to the problems of underserved groups and ethnic minorities. Given the shared emphasis on prevention, some community psychologists collaborate with



James Burnett/Miami Herald/MCT via Getty Images

Coping with disaster After Haiti's disastrous 2010 earthquake, this community psychologist helped survivors cope with the loss of their homes and, for many, the death of family members and friends.

professionals in other areas, such as public health. As a community psychologist, your work settings could include federal, state, and local departments of mental health, corrections, and welfare. You might conduct research or help evaluate research in health service settings, serve as an independent consultant for a private or government agency, or teach and consult as a college or university faculty member.

COUNSELING PSYCHOLOGISTS help people adjust to life transitions or make lifestyle changes. Although similar to clinical psychologists, counseling psychologists typically help people with adjustment problems rather than severe psychopathology. Like clinical psychologists, counseling psychologists conduct therapy and provide assessments to individuals and groups. As a counseling psychologist, you would emphasize your clients' strengths, helping them to use their own skills, interests, and abilities to cope during transitions. You might find yourself working in an academic setting as a faculty member or administrator or in a university counseling center, community mental health center, business, or private practice. As with clinical psychology, if you plan to work in independent practice you will need to obtain a state license to provide counseling services to the public.

* * *

So, the next time someone asks you what you could do with a psychology degree, tell them you will have a lot of options. You might use your acquired skills and understanding to get a job and succeed in any number of fields, or you might pursue graduate school and then career opportunities in associated professions. In any case, what you have learned about behavior and mental processes will surely enrich your life (Hammer, 2003).

Before You Move On

▶ **ASK YOURSELF**

Which of psychology's specialties were you aware of before taking this course? Which seem most interesting to you?

▶ **TEST YOURSELF**

Name the subfields that focus on a) people and their work environments, b) how people change over the life span, c) the human thinking involved in perceiving, remembering, speaking, and decision making, and d) diagnosing and treating psychological disorders.

Answers to the Test Yourself questions can be found in Appendix E at the end of the book.

Module 3 Review

3-1 What do psychologists in various professions do, and where do they work?

- The APA has formed 56 divisions.
- Psychology's specialties include the basic research subfields (cognitive, developmental, educational, experimental, psychometric and quantitative, and social psychology); the applied research subfields (forensic, health, industrial-organizational, neuropsychology, rehabilitation, school, and sport psychology); and the helping professions (clinical, community, and counseling).
- Work settings for psychologists include a wide range of government agencies, industrial and business settings, clinics and counseling centers, health care institutions, schools, universities, and research organizations.