

ELEVENTH EDITION

UNDERSTANDING PSYCHOLOGY



CHARLES G. MORRIS

ALBERT A. MAISTO

Understanding Psychology

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Understanding Psychology

Eleventh Edition

Charles G. Morris

Albert A. Maisto

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Preface

With each new edition, we strive to make the text as current as possible and continuously improve the book based on suggestions from the professors and students who use the current edition. At the same time, our original goals for this book remain the same. We wanted to present a scientific, accurate, and thorough overview of the essential concepts of psychology; to use engaging language that students can easily comprehend; to be current without being trendy; and to write clearly and accessibly about psychology and its concrete, real-life applications—without being condescending to the introductory-level student.

Continued Focus on Basic Unifying Concepts

In this new edition, we continue to focus on three unifying, basic concepts, which have been woven throughout every edition of our texts:

- 1. Psychology is a science that is rapidly evolving.** From the thousands of articles that have appeared during the past several years, we selected nearly 300 new references for this edition, almost all of which are from 2011–2014. The entire book has been thoroughly updated to be consistent with DSM-5. Examples of new material include evolutionary psychology and adaptive memory, destruction of neurons responsible for pain, the relationship between illness, increased adenosine levels, and sleep, using meditation to treat chronic PTSD, the role of sleep in strengthening procedural memories, hands-free vs. hands-on conversations and texting while driving, characteristics of intervention programs that influence effectiveness, treatment of eating disorders, learning in utero, bullying, the effect of playing interactive video games, changes in the brain during adolescence, fulfilling prophecy about physical losses in late adulthood, happiness in late adulthood, how brain structures may be related to personality traits, Lazarus’s theory of stress, the difference between being well-adjusted and being happy, PTSD among partners of veterans, telehealth, transcranial direct current stimulation (tDCS), additional ways to deliver mental health services, the Stanford Prison Experiment, and the first impression effect in the virtual world.
- 2. Human behavior and thought are diverse, varied, and affected by culture.** We have continued to give close attention to diversity. Woven throughout the chapters we emphasize the importance of understanding the role culture, gender and human diversity play in shaping virtually every aspect of human behavior including: cognition, learning, memory, emotion,

motivation, stress, mental illness, sexuality, development, perception and drug effects.

- 3. The study of psychology involves active thinking, questioning, and problem solving.** We retained all the “Thinking Critically About” exercises. The topics encourage the reader to engage in genuine critical thinking by questioning the methods used to gather data, considering possible alternative explanations for findings, and imagining further research that might shed additional light on the phenomenon under study.

Continuing Attention to Enduring Issues

We believe that an important part of active learning is for students to recognize recurring themes that run through the material they are reading. In Chapter 1, we introduce a set of five **Enduring Issues** that cut across and unite all subfields of psychology (see pages 6–7):

- **Person–Situation:** To what extent is behavior caused by processes that occur inside the person, such as thoughts, emotions, and genes? In contrast, to what extent is behavior caused or triggered by factors outside the person, such as incentives, cues in the environment, and the presence of other people?
- **Nature–Nurture:** Is the person we become a product of innate, inborn tendencies, or a reflection of experience and upbringing?
- **Stability–Change:** Are the characteristics we develop in childhood more or less permanent and fixed, or do we change in predictable (and unpredictable) ways over the course of our lives?
- **Diversity–Universality:** Because we are all human, each person is like every other person. But in some respects, each person is only like certain other people. And in other respects, each of us is like no other person. Thus, anywhere humans exist there will be both similarity and diversity.
- **Mind–Body:** How are mind and body connected? Many psychologists are fascinated by the relationship between what we experience, such as thoughts and feelings, and biological processes, such as activity in the nervous system.

These five issues represent enduring themes in the history of psychology. Depending on the events and intellectual climate of a given time period, one or another of these issues has assumed special prominence. For example, the role of genetics (heredity) is receiving much greater attention today

than it has in the past. Diversity is also an issue of much greater concern, as is the role of biological processes.

Throughout this book, we will highlight the importance of these matters. Each chapter opens with a section highlighting the enduring issues to be encountered in that chapter. Several times in each chapter we will call the reader's attention to the way in which the topic under consideration—whether it be new discoveries about communication within the nervous system, research into how we learn, or the reason that people abuse drugs—reflects one of these issues. In this way, we will show the surprising unity and coherence of the diverse and exciting science of psychology.

LEARNING OBJECTIVES

The chapter learning objectives were carefully written to cover the content of each chapter and to ensure that students who master the objectives will indeed have a thorough grasp of the material. The objectives also help to organize the supplementary material, allowing for easy customization by instructors.

OPENING VIGNETTES

Each chapter of our text begins with an opening vignette. Reviewers have often commented on how useful it is to have the vignette woven throughout the chapter to help students understand and apply information.

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New To This Edition

CHAPTER 1 The Science of Psychology

- New video "The Experimental Method"
- New video "Ethics in Animal Research"
- New video "The Challenge of Critical Thinking"
- New video "Research Methods"
- New interactive "Survey: Participating in a Research Survey"
- New end-of-chapter writing assignment
- 6 new end-of-module quizzes and 1 new end-of-chapter quiz
- 12 new references

CHAPTER 2 The Biological Basis of Behavior

- Added third function for myelin sheath: protection from disease

- Functional magnetic resonance imaging (fMRI) added as a new key term
- New information on ways fMRI is contributing to understanding the brain
- New material on evolutionary psychology and adaptive memory
- New video "Parts of the Neuron"
- New video "The Neural Impulse"
- New video "Neurotransmitters"
- New video "Dopamine in Synapse"
- New video "Neural Plasticity"
- New interactive "Major Structures of the Brain"
- New experiment "Hemispheric Specialization"
- New interactive "Spinal Cord Reflex"
- New interactive "Functions of the Parasympathetic and Sympathetic Divisions of the Nervous System"
- New video "Why We Do the Things We Do"
- New end-of-chapter writing assignment
- 5 new end-of-module quizzes and 1 new end-of-chapter quiz
- 30 new references

CHAPTER 3 Sensation and Perception

- Brief new information on levels of sound high enough to contribute to serious health problems
- Brief new material on destruction of neurons responsible for pain
- New material illustrating how desires and needs shape our perceptions
- New video "Visual Cues"
- New video "In the Real World: Managing Pain"
- New experiment "Weber's Law"
- New interactive "Eye Anatomy"
- New interactive "Cochlear Implant"
- New interactive "Binocular Cues to Depth Perception"
- New end-of-chapter writing assignment
- 5 new end-of-module quizzes and 1 new end-of-chapter quiz
- 7 new references

CHAPTER 4 States of Consciousness

- Updated statistics on teenage alcohol, marijuana and ecstasy use
- Updated statistics on alcohol related traffic deaths
- New information on the relationship between illness, increased adenosine levels, and sleep
- New material on the Activation-Synthesis Theory of Dreaming

- New material on using meditation to treat chronic PTSD
- New video “Sleep Regulation”
- New video “Sleep Stages”
- New video “The Effects of Sleep Deprivation on Learning and Memory”
- New video “Sleep Disorders”
- New interactive/quiz “Activation and Synthesis Theory of Dreaming
- New video “The uses and Limitations of Hypnosis”
- New end-of-chapter writing assignment
- 4 new end-of-module quizzes and 1 new end-of-chapter quiz
- 33 new references

CHAPTER 5 Learning

- Added examples of classical conditioning in films and ads
- New material on exposure to violent video games desensitizing viewers and subsequent increased aggression
- Revised paragraph on effectiveness of punishment
- New video “Classical Conditioning: An Involuntary Response”
- New video “Schedules of Reinforcement”
- New video “Punishment”
- New interactive “Classical Conditioning”
- New interactive “Schedules of Reinforcement”
- New interactive “Latent Learning”
- New end-of-chapter writing assignment
- 4 new end-of-module quizzes and 1 new end-of-chapter quiz
- 11 new references

CHAPTER 6 Memory

- New information on the key tasks of STM
- New material on role of sleep in strengthening procedural memories
- New video “The woman who cannot forget”
- New video “When memory fails”
- New video “Eyewitness Testimony”
- New experiment “Serial Position Effect Experiment”
- New end-of-chapter writing assignment
- 6 new end-of-module quizzes and 1 new end-of-chapter quiz
- 14 new references

CHAPTER 7 Cognition and Mental Abilities

- New information on teaching a border collie to understand >1,000 words and complex sentences
- Brief new material on downside of hindsight bias

- New material on hands-free vs. hands-on conversations and texting while driving
- New material explaining the link between social class, heredity, and intelligence
- Brief new material on characteristics of intervention programs that influence effectiveness
- Added new material on cognitive ability in pre-industrial vs. post-industrial countries
- Changed “mental retardation” to “intellectual disability” throughout to comply with DSM-5
- Added brief new material on adulthood of children who are gifted
- New material on Dame Kathleen Timpson Ollerenshaw whose photo opens the chapter
- New material to the discussion of creative problem solving.
- New video: “Representative Heuristic”
- New video: “Availability Heuristic”
- New survey: “What Is Intelligence?”
- New video: “Sternberg’s Theory of Intelligence”
- New video: “Gardner’s Theory of Intelligence”
- New survey: “What Is Creativity?”
- New end-of-chapter writing assignment
- 9 new end-of-module quizzes and 1 new end-of-chapter quiz
- 26 new references

CHAPTER 8 Motivation and Emotion

- New material on the treatment of eating disorders
- New video “Maslow’s Hierarchy of Needs”
- New video “Treating eating disorders”
- New video “Sexual Orientation”
- New video “Harlow’s Monkeys”
- New video “Theories of Emotion”
- New video “Detecting Lies”
- New end-of-chapter writing assignment
- 6 new end-of-module quizzes and 1 new end-of-chapter quiz
- 18 new references

CHAPTER 9 Life-Span Development

- New material on learning in utero
- New information on infants using sounds to express emotions
- New material on bullying
- New material on effect of playing interactive video games
- New information on changes in the brain during adolescence

- Brief new information on changes in midlife
- New material on self-fulfilling prophecy about physical losses in late adulthood
- New material on happiness in late adulthood
- Brief new material on the effect on memory of learning new, challenging skills
- New video: “Object Permanence”
- New video: “Parenting Styles”
- New video: “Sex-Typed Behaviors”
- New survey: “The Role of Your Father”
- New video: “Midlife Transition”
- New video: “Adulthood”
- New video: “Late Adulthood Relationships”
- New end-of-chapter writing assignment.
- 7 new end-of-module quizzes and 1 new end-of-chapter quiz
- 26 new references

CHAPTER 10 Personality

- New material on how brain structures may be related to personality traits
- New video “Freud’s Theory of Personality”
- New video “Humanistic Theories”
- New video “Trait Theories”
- New video “Behavioral Theories of Personality”
- New simulation “Survey: NEO-PI Personality Inventory”
- New experiment “MMPI-2”
- New video “Rorschach”
- New end-of-chapter writing assignment
- 6 new end-of-module quizzes and 1 new end-of-chapter quiz
- 10 new references

CHAPTER 11 Stress and Health Psychology

- New material on Lazarus’s theory of stress
- Brief new material on the value of studying resilient children
- Brief new material on the effect of a lifetime of moderate or severe stress
- Brief new material on the effect of simple acts on subjective well-being
- Brief new material on PTSD among partners of veterans
- New material on being well-adjusted vs. happy
- New interactive: “Undergraduate Stress Questionnaire”
- New video: “Why Is It Difficult to Change Unhealthy Habits?”
- New video: “Post Traumatic Stress Disorder”
- New end-of-chapter writing assignment

- 6 new end-of-module quizzes and 1 new end-of-chapter quiz
- 36 new references

CHAPTER 12 Psychological Disorders

- Thoroughly updated descriptions of mental disorders and diagnostic criteria throughout chapter to make consistent with DSM-5
- Paraphilic disorder added as new key term
- Genito-pelvic pain/penetration disorder added as new key term
- New material on structural abnormalities that may be present in the brains of pedophilic offenders
- New video “Depression”
- New interactive feature: “Filiziano: Bipolar Disorder”
- New video “Anxiety Disorders”
- New video “Schizophrenia”
- New video “Genetic Research in Schizophrenia”
- New video “Autistic Spectrum Disorder”
- New end-of-chapter writing assignment
- 10 new end-of-module quizzes and 1 new end-of-chapter quiz
- 16 new references

CHAPTER 13 Therapies

- New material on telehealth
- Added question on how to determine effectiveness of therapy
- Added PTSD as a disorder that responds to cognitive therapy
- New material on transcranial direct current stimulation (tDCS)
- New material on additional ways to deliver mental health services
- Brief new material on minimizing the effects of poverty on children and youths
- New material on diversity and treatment
- New video: “Psychoanalysis”
- New video: “Person-centered Therapy”
- New video: “Behavior Therapies”
- New video: “Cognitive Therapies”
- New video: “Drug Therapies”
- New video: “Diversity”
- New Survey: “How Do You Take Care of Your Mental Health?”
- New end-of-chapter writing assignment
- 8 new end-of-module quizzes and 1 new end-of-chapter quiz
- 24 new references

CHAPTER 14 Social Psychology

- New material on the Stanford Prison Experiment
- New material on the role physical attractiveness plays in interpersonal attraction
- New material extending the first impression effect to the virtual world
- New video “Speed Dating”
- New video “Cognitive Dissonance”
- New explore feature “Bystander Intervention”
- New end-of-chapter writing assignment
- 4 new end-of-module quizzes and 1 new end-of-chapter quiz
- 18 new references

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Charles G. Morris

Albert A. Maisto

Chapter 1

The Science of Psychology



Learning Objectives

- LO 1.1** Define *psychology* and describe some of the major subfields within psychology.
- LO 1.2** Describe the five enduring issues that cut across the subfields of psychology.
- LO 1.3** Explain what psychology has in common with other sciences, how psychologists use the scientific method, and the difference between theories and hypotheses.
- LO 1.4** Characterize critical thinking by its various steps.
- LO 1.5** Describe the emergence of scientific psychology in the late 19th and early 20th centuries.
- LO 1.6** Explain the roles voluntarism, structuralism, functionalism, and psychodynamic theory played in initially defining psychology as “a science of the mind.”
- LO 1.7** Explain how Watson and Skinner redefined the field of psychology.
- LO 1.8** Describe what is meant by “the cognitive revolution” in psychology.
- LO 1.9** Explain how evolutionary psychology and positive psychology are changing the focus of contemporary psychology.
- LO 1.10** Describe the role of women in the history of psychology.
- LO 1.11** Discuss the ways in which knowledge and awareness of human diversity can and does inform and enrich psychological study.
- LO 1.12** Describe the characteristics, strengths, and weaknesses of naturalistic observation, case studies, surveys, correlational research.
- LO 1.13** Describe the differences between independent and dependent variables and between control groups and experimental groups.

LO 1.14 Differentiate between random and representative samples, and describe the factors that can influence a research study.

LO 1.15 Identify key ethical issues in psychological research with humans and nonhumans.

LO 1.16 Describe some of the career paths that are available to people who have studied psychology. Distinguish among psychiatrists, psychoanalysts, clinical psychologists, counseling psychologists, and social workers.

Vernita Lee was 18 and unmarried in 1954 when she gave birth to a daughter in her mother's rundown Mississippi farmhouse. The baby's father, Vernon, was not seriously involved with Vernita, who continued to live with her mother, Hattie Mae. Four years later Vernita moved to Milwaukee, where she heard that young Black women could earn good money working as maids. Her daughter remained with Hattie Mae, helping to tend the pigs and chickens and hauling water from the well to the house. Without neighborhood friends to play with, the child entertained herself by talking to the animals, delighting in making speeches to the cows. Extremely gifted in language and encouraged by her grandmother, who highly valued education, she learned to read and write at the age of 3. Because of her remarkable ability to memorize passages from the Bible, she soon began delivering inspirational speeches in church, earning her the nickname "Little Preacher."

But the precocious child's life took a turn for the worse when she went to Milwaukee to live with her mother in a shabby rooming house. Vernita did not share Hattie Mae's devotion to education and she belittled her daughter's deep love of books. Neglected and often inadequately supervised, the girl was raped by a 19-year-old cousin when she was only 9 years old. Terrified, she kept her dark secret, only to become sexually abused by a procession of other men. Soon she blamed herself for what was happening to her. She also began to lie, steal, and run away. Vernita tried but failed to have her placed in a home for delinquent teenagers. Instead, the now pregnant 14-year-old girl went to live with her father, Vernon, in Nashville, Tennessee.

After the baby was born prematurely and died soon after birth, Vernon was able to provide his troubled daughter with the love, stability, and discipline she needed to turn her life around. He and his wife Zelma encouraged her to study hard and cultivate her talent for public speaking. Winning a speech contest earned her a 4-year scholarship to college. Other contest victories followed, capturing the attention of staff at a local radio station, who offered her a job as a newscaster even before she had graduated from high school. In college, CBS in Nashville hired her to anchor the evening news. She eventually moved to Chicago, where she began hosting a popular TV talk show. Audiences loved her personal touch and the way she often shared her innermost thoughts and feelings. Within a year the show had a new name. Rather than "A.M. Chicago," now it was "The Oprah Winfrey Show."

What Is Psychology?

LO 1.1 Define *psychology* and describe some of the major subfields within psychology.

"Most psychologists study mental and emotional problems and work as psychotherapists." Is this statement true or false?

Why have we chosen the story of Oprah Winfrey to introduce you to the subject of psychology? It is because this story raises so many fascinating questions about human beings. What motivates a person to persevere against all odds and overcome enormous challenges? Do certain personality traits give such people unusual resilience to hardship? Or could anyone, investing enough effort, accomplish what Oprah has done? Many people in Oprah's situation would have succumbed to depression and given up trying to achieve. Why does this happen to some people but not others?

These are the same kinds of questions that psychologists also ask. Psychology is not confined to investigating abnormal behavior, as many people mistakenly assume. **Psychology** is the scientific study of behavior and mental processes in all their many facets. As such, viewed from a wealth of different perspectives, it encompasses every aspect of human thoughts, feelings, and actions.

psychology

The scientific study of behavior and mental processes.

The Breadth of Psychology

One way to grasp the breadth and depth of topics in psychology is to look at the major subfields within it. These are shown in **Table 1.1**. As you can see, psychology is not so much a single, unified field of study as it is an umbrella concept for a loose amalgamation of different subfields. Here, we introduce you to seven of the largest subfields in psychology.

DEVELOPMENTAL PSYCHOLOGY *Developmental psychologists* study all aspects of human growth and change—physical, mental, social, and emotional—from the

Table 1.1 American Psychological Association Divisions (2014)

The two major organizations of psychologists in the United States are the American Psychological Association (APA), founded over 100 years ago, and the Association for Psychological Science (APS), founded in 1988. Members of both groups work in a wide variety of areas. The following list of divisions of the APA reflects the enormous diversity of the field of psychology.

Division*	
1. Society for General Psychology	30. Society of Psychological Hypnosis
2. Society for the Teaching of Psychology	31. State Psychological Association Affairs
3. Experimental Psychology	32. Humanistic Psychology
5. Evaluation, Measurement, and Statistics	33. Mental Retardation and Developmental Disabilities
6. Behavioral Neuroscience and Comparative Psychology	34. Population and Environmental Psychology
7. Developmental Psychology	35. Society for the Psychology of Women
8. Society for Personality and Social Psychology	36. Psychology of Religion
9. Society for the Psychological Study of Social Issues (SPSSI)	37. Child, Youth, and Family Services
10. Psychology and the Arts	38. Health Psychology
12. Society of Clinical Psychology	39. Psychoanalysis
13. Society of Consulting Psychology	40. Clinical Neuropsychology
14. Society for Industrial and Organizational Psychology	41. American Psychology—Law Society
15. Educational Psychology	42. Psychologists in Independent Practice
16. School Psychology	43. Family Psychology
17. Counseling Psychology	44. Society for the Psychological Study of Lesbian, Gay, and Bisexual Issues
18. Psychologists in Public Service	45. Society for the Psychological Study of Ethnic Minority Issues
19. Military Psychology	46. Media Psychology
20. Adult Development and Aging	47. Exercise and Sport Psychology
21. Applied Experimental and Engineering Psychology	48. Society for the Study of Peace, Conflict, and Violence: Peace Psychology Division
22. Rehabilitation Psychology	49. Group Psychology and Group Psychotherapy
23. Society for Consumer Psychology	50. Addictions
24. Theoretical and Philosophical Psychology	51. Society for the Psychological Study of Men and Masculinity
25. Behavior Analysis	52. International Psychology
26. History of Psychology	53. Society of Clinical Child and Adolescent Psychology
27. Society for Community Research and Action: Division of Community Psychology	54. Society of Pediatric Psychology
28. Psychopharmacology and Substance Abuse	56. American Society for the Advancement of Pharmacotherapy
29. Psychotherapy	56. Trauma Psychology

*There are no divisions 4 or 11.

For information on a division, e-mail the APA at division@apa.org, or locate them on the Internet at www.apa.org/about/division.html

SOURCE: American Psychological Association (2014). Divisions of the American Psychological Association from www.apa.org/about/division/index.aspx

prenatal period through old age. Most specialize in a particular stage of human development. *Child psychologists* focus on infants and children, concerning themselves with such issues as whether babies are born with distinct temperaments and at what age sex differences in behavior emerge. *Adolescent psychologists* look largely at how puberty affects a range of developmental phenomena, from relationships with peers and parents to the search for a personal identity. Finally, *life-span psychologists* focus on the challenges and changes of adulthood, from marrying and having children to facing the transitions related to aging and eventual death.

PHYSIOLOGICAL PSYCHOLOGY *Physiological psychologists* investigate the biological basis of human behavior, thoughts, and emotions. Among these, *neuropsychologists* are interested in the workings of the brain and nervous system. Their colleagues known as *biological psychologists* study the body's biochemistry and the ways that hormones, psychoactive medications, and "social drugs" affect us. *Behavioral geneticists* add yet another dimension: They explore the impact of heredity on both normal and abnormal behavior.

EXPERIMENTAL PSYCHOLOGY *Experimental psychologists* conduct research on basic psychological processes, including learning, memory, sensation, perception, thinking, motivation, and emotion.

PERSONALITY PSYCHOLOGY *Personality psychologists* study the differences among individuals in such traits as sociability, conscientiousness, emotional stability, self-esteem, agreeableness, aggressive inclinations, and openness to new experiences.

CLINICAL AND COUNSELING PSYCHOLOGY When asked to describe a psychologist, most people think of a therapist who sees troubled people in an office, clinic, or hospital. This popular view is half correct. About 50% of psychologists specialize in clinical or counseling psychology, both of which seek to help people deal more successfully with their lives. *Clinical psychologists* are interested primarily in the diagnosis, causes, and treatment of psychological disorders, such as depression or acute anxiety. *Counseling psychologists*, in contrast, are concerned mainly with the everyday problems of adjustment that most of us face at some point in life, such as making a difficult career choice or coping with a troubled relationship. Clinical and counseling psychologists often divide their time between treating people and conducting research on the causes of psychological disorders and the effectiveness of different types of therapy.

SOCIAL PSYCHOLOGY *Social psychologists* believe that our thoughts, feelings, and behaviors are all greatly influenced by other people and the social situations in which we find ourselves. Social psychology is the scientific study of how these social influences are exerted and the effects they have.

INDUSTRIAL AND ORGANIZATIONAL (I/O) PSYCHOLOGY *Industrial and organizational (I/O) psychologists* apply the principles of psychology to the workplace. They are concerned with such practical issues as selecting and training personnel and improving productivity and working conditions.

Applying Psychology

Psychology's Contribution to a Sustainable Environment

Alan Kazdin, president of the American Psychological Association in 2008, has made the argument that the great variety of specialty areas in psychology is actually "an enormous strength" (Kazdin, 2009, p. 339). Psychologists, because of their diversity, are uniquely positioned to investigate and understand complex social problems such as terrorism, climate change, disasters, health care, crime, and fostering a sustainable environment.

Those problems share a number of characteristics, among them the fact that previously tried strategies are not likely to be effective. They call for new ways of thinking about and solving problems. Chapter 14's APPLYING PSYCHOLOGY box, "Conserving the Environment," describes specific examples of ways in which psychology can be applied to help conserve the environment.

Summary Table Major Subfields of Psychology

Field of Psychology	Description
Developmental Psychology	The study of how people grow and change physically, cognitively, emotionally, and socially, from the prenatal period through death. Includes <i>child</i> , <i>adolescent</i> , and <i>life-span</i> psychology.
Physiological Psychology	Investigates the biological basis of behavior. Includes <i>neuroscience</i> , <i>biological psychology</i> , and <i>behavior genetics</i> .
Experimental Psychology	Investigates basic psychological processes such as sensation and perception, memory, intelligence, learning, and motivation.
Personality Psychology	Studies the differences between individuals on such traits as sociability, emotional stability, conscientiousness, and self-esteem.
Clinical and Counseling Psychology	Applies the principles of psychology to mental health and adjustment. <i>Clinical psychology</i> focuses on the diagnosis and treatment of mental disorders, while <i>counseling psychology</i> is more concerned with "normal" adjustment issues such as making difficult choices or coping with a troubled relationship.
Social Psychology	Explores how society influences thoughts, feelings, and behavior.
Industrial and Organizational (I/O) Psychology	Applies the principles of psychology to the workplace.

An overview of these major subfields of psychology is presented in the preceding **Summary Table**.

Enduring Issues

LO 1.2 Describe the five enduring issues that cut across the subfields of psychology.

Given this broad range of careers and interests, what unifies the field of psychology?

What do psychologists who study organizations, psychological disorders, memory and cognition, behavioral genetics, or changes across the life span have in common? All psychologists share a common interest in five enduring issues that override their areas of specialization and cut to the core of what it means to be human.

PERSON–SITUATION To what extent is behavior caused by such internal processes as thoughts, emotions, motives, attitudes, values, personality, and genes? In contrast, to what extent is behavior caused by such external factors as incentives, environmental cues, and the presence of other people? Put another way, are we masters of our fate or victims of circumstances? We will encounter these questions most directly in our consideration of behavior genetics, learning, emotion and motivation, personality, and social psychology.

NATURE–NURTURE To what extent are we a product of innate, inborn tendencies, and to what extent are we a reflection of experiences and upbringing? This is the famous "nature versus nurture" debate. For decades, psychologists have argued about the relative influence of heredity (genes) versus environment (experience) on thought and behavior. More recently, psychologists have begun studying the extent to which genetic differences only appear in specific environments, and the extent to which certain experiences only affect people with particular genetic predispositions (Champagne, 2009). This complex issue surfaces most clearly in our discussions of behavior genetics, intelligence, development, personality, and abnormal psychology.

STABILITY–CHANGE Are the characteristics we develop in childhood more or less permanent and fixed, or do we change significantly over the course of our lives? Developmental psychologists are especially interested in these and other questions, as



SMARTER EGG DONOR

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scientific method

An approach to knowledge that relies on collecting data, generating a theory to explain the data, producing testable hypotheses based on the theory, and testing those hypotheses empirically.

are psychologists who specialize in personality, adjustment, abnormal psychology, and therapy.

DIVERSITY–UNIVERSALITY Because we are all human, each person is like every other person. But in some respects, each person is only like certain other people. And in other respects, each of us is like no other person. Thus, anywhere humans exist there will be both similarity and diversity. Throughout this book, we will encounter these questions: Does our understanding of human behavior apply equally well to every human being? Does it apply only to men or just to women, or only to particular racial or ethnic groups or particular societies (especially our own)? Do we perhaps need “different psychologies” to account for the wide diversity of human behaviors (Arnett, 2008)?

MIND–BODY Finally, how are mind and body connected? Many psychologists are fascinated by the relationship between what we experience (such as thoughts and feelings) and what our biological processes are (such as activity in the nervous system). This mind–body issue will arise most clearly in our discussions of the biological basis of behavior, sensation and perception, altered states of consciousness, emotion and motivation, adjustment and health psychology, and disorders and therapy.

These five issues represent enduring themes in the history of psychology. Depending on the events and intellectual climate of a given time period, one or another of these issues has assumed special prominence in the history of psychology. For example, at the beginning of the 21st century the role of genetics (heredity) is receiving much greater attention than in the past. Diversity is also an issue of much greater concern, as is the role of biological processes.

Throughout this book, we will highlight the importance of these matters. Several times in each chapter we will call your attention to the way in which the topic under consideration reflects one of these issues. In this way, we will show the surprising unity and coherence within the diverse science of psychology.

Psychology as Science

LO 1.3 Explain what psychology has in common with other sciences, how psychologists use the scientific method, and the difference between theories and hypotheses.

What does psychology have in common with other sciences?

Earlier we defined psychology as the science of behavior and mental processes. The key word in this definition is *science*. Psychologists rely on the **scientific method** when seeking to answer questions. They collect data through careful, systematic observation; attempt to explain what they have observed by developing theories; make new predictions based on those theories; and then systematically test those predictions through additional observations and experiments to determine whether they are correct. Thus, like all scientists, psychologists use the scientific method to describe, understand, predict, and, eventually, achieve some measure of control over what they study.

For example, consider the question of whether males are more aggressive than females. How would psychologists approach the issue? First, they would want to find out whether in fact men and women actually differ in aggressive behavior. Hundreds of research studies have addressed this question, and the evidence seems conclusive: Although males and females do not differ significantly in feelings of anger, males are more physically and verbally aggressive than females (Archer, 2009). Males are usually more physically aggressive than females in nonhuman species as well. Once psychologists have established that there are indeed sex differences in aggression, the next step is to attempt to explain those differences. A number of explanations are possible. For

example, if you are a physiological psychologist, you will probably ascribe these differences to genetics or body chemistry. If you are a social psychologist, you might explain the differences in terms of cultural norms, which require males to “stand up for themselves” and hold that physical aggression isn’t “feminine.” If you are an evolutionary psychologist, you might point out that females of many species (especially mammals) have traditionally born greater responsibility than males for caring for their offspring and ensuring their survival. Perhaps females have evolved to avoid hostile confrontations that could harm or kill them.

Each of these explanations stands as a **theory** about the causes of sex differences in aggression. And each theory allows you to make new **hypotheses**, or predictions, about the phenomenon in question. For example, if gender differences in aggression arise because males have higher levels of testosterone than females do, you would predict that extremely violent men should have higher levels of testosterone than do men who are generally non-violent. If sex differences in aggression reflect cultural norms, you would predict that within societies that encourage nonviolence and peaceful coexistence the difference in aggression across the sexes should be small. If sex differences are due to an evolutionary advantage for females to avoid direct, aggressive confrontations in order to reproduce and care for their offspring, you would expect sex differences to be greatest for physical aggression and somewhat less for verbal aggression. You would also expect such inborn sex differences to appear very early in life.

Each of these predictions or hypotheses can be tested through research, and the results should indicate whether one theory is better than another at accounting for known facts and predicting new facts. You will learn in Chapters 2 and 8 that there is no simple relationship between testosterone and aggressiveness. In Chapter 8 (“Motivation and Emotion”) you will also learn that indeed cultural norms do affect sex difference in aggressiveness among humans, but that doesn’t explain sex differences in nonhuman species. In Chapter 2 (“The Biological Basis of Behavior”) you will also learn that research data do provide some support for the evolutionary theory of sex differences in aggression.



Males are more physically aggressive than females. Different areas within psychology have different explanations for why this is the case.

Critical Thinking: Thinking Like a Scientist

LO 1.4 Characterize critical thinking by its various steps.

What does it mean to “think critically”?

Consider the statement “Opposites attract.” Do you agree with this statement? Many people answer yes without hesitation on the grounds that “Everybody knows that.” Critical thinkers, however, question common knowledge. Learning to think critically is one of the “fringe benefits” of studying psychology. (See “Applying Psychology: The Benefits of Studying Psychology.”)

When we think critically, we define problems, examine evidence, analyze assumptions, consider alternatives, and, ultimately, find reasons to support or reject an argument. To think critically, you must adopt a state of mind that is characterized by objectivity, caution, a willingness to challenge other people’s opinions, and—perhaps most difficult of all—a willingness to subject your deepest beliefs to scrutiny. In other words, you must think like a scientist.

In the following video you will learn that critical thinking doesn’t come naturally. It takes practice to develop this skill.

theory

Systematic explanation of a phenomenon; it organizes known facts, allows us to predict new facts, and permits us to exercise a degree of control over the phenomenon.

hypotheses

Specific, testable predictions derived from a theory.



 [Watch the Video](#) “The Challenge of Critical Thinking”

Psychologists use a number of strategies in questioning assumptions and examining data. Here, we use the rules of psychological investigation to judge whether the previously mentioned assertion that “opposites attract” is correct:

- **Define the problem or the question you are investigating.** Do opposites attract each other?
- **Suggest a theory or a reasonable explanation for the problem.** People who are dissimilar balance each other in a relationship.
- **Collect and examine all the available evidence.** Be skeptical of people’s self-reports, as they may be subjectively biased. If data conflict, try to find more evidence. Research on attraction yields no support for the idea that opposites attract, whereas many studies confirm that people of similar looks, interests, age, family background, religion, values, and attitudes seek each other.
- **Analyze assumptions.** Because balancing different people’s strengths and weaknesses is a good way to form a group, you might assume it is a good basis for personal relationships as well, which would explain why people of opposite temperaments would be attracted to each other. Yet research evidence shows that such an assumption is false. Why should people of similar temperaments attract each other? One important reason is that they often belong to the same social circles. Research suggests proximity is a big factor in attraction.
- **Avoid oversimplifying.** Don’t overlook the evidence that people of similar temperaments find living together rather difficult in some ways. For example, living with someone who is as tense as you are may be harder than living with someone of calm temperament—your opposite.
- **Draw conclusions carefully.** It seems safe to conclude that, in general, opposites don’t attract, but there are specific exceptions to this general rule.
- **Consider every alternative interpretation.** People may cite cases that conflict with your conclusion. Remember, however, that their arguments are likely to be based on subjective observations and a far narrower database than researchers have used when studying this question.
- **Recognize the relevance of research to events and situations.** Let’s say you have been thinking of dating someone whose temperament seems quite different from yours. You may decide, based on what you now know, not to rush into things but to go more slowly, testing your own observations against your knowledge of research findings. But since there are cases where opposites do attract, you may indeed find that person attractive.

Applying Psychology

The Benefits of Studying Psychology

Although psychology is the fourth most popular undergraduate major (after Business, Social Sciences & History, and Education) (American Psychological Association, 2008b), we know that many students take psychology classes in order to fulfill a general requirement for their degree, rather than out of a compelling interest in the subject. Those students, and even some who are keenly interested in psychology, may wonder, “What am I going to gain from taking this course?” There are several benefits that you can gain from studying psychology:

- **Self-understanding.** Almost all of us want to understand ourselves and others better. In our daily lives, we often look for answers by relying on our own experience, knowledge, and assumptions. But, as you will see, that barely scratches the surface. As a psychology student, you will be challenged to go beyond the superficial in your life and confront what really lies behind your most basic actions. You will learn to look deeply into human behavior and ask complex and precise questions. In the process, you will not only achieve a better understanding of yourself and your fellow human beings, but also come to realize that much of what we consider “just plain common sense about people” doesn’t hold up under scrutiny (Lilienfeld, 2013).
- **Critical thinking skills.** In addition to greater understanding of yourself and others, by studying psychology you will also have an opportunity to acquire some specific skills. One of those skills is the ability to think critically about psychological issues: to clearly define issues, to examine the evidence bearing on them, to become more aware of hidden assumptions, to resist the temptation to oversimplify, to draw conclusions carefully, and above all to realize the relevance of empirical research to understanding psychological issues. As a result of practicing critical thinking, you will become a more sophisticated consumer of the information available to you in the mass media (Bensley, Crowe, Bernhardt, Buckner, & Allman, 2010; Gray, 2008). You will also become more cautious about too quickly accepting what looks like “common sense.”
- **Skill in the application of the scientific method.** Because psychology uses the scientific method to understand behavior, studying psychology helps students understand and become proficient in the principles and application of the scientific method. Perhaps this is why increasing numbers of educators use psychology to teach the fundamentals of the scientific method to undergraduates who show little interest in more traditional scientific disciplines like chemistry or physics (Dingfelder, 2007).
- **Study skills.** You will also have the opportunity to acquire better study skills that will serve you well in all your courses. You will find an entire chapter on human memory (Chapter 6) containing excellent information about making the most of your study time. But you will also find information about the relation between sleep and learning and the effects of drugs on memory (Chapter 4), about the nature of intelligence and its relation to success in school and in later life (Chapter 7), about the effects of motivation and arousal on the ability to learn and to perform (Chapter 8), and about age differences in the ability to learn and remember (Chapter 9).
- **Job skills.** Finally, you may acquire some skills that will help you find a job. This chapter lists many career possibilities for students who earn degrees in psychology. In addition, many careers outside psychology draw on a person’s knowledge of psychology. For example, personnel administrators deal with employee relations, vocational rehabilitation counselors help people with disabilities find employment, and day-care center supervisors oversee the care of preschool children. Indeed, employers in areas such as business and finance seek out psychology majors because of their knowledge of the principles of human behavior and their skills in experimental design and data collection and analysis.

Of course, all of these benefits are much more likely to accrue to students who regularly attend class, study, and try to apply what they learn to their own lives. As with many other opportunities, the benefits you receive are, in large part, up to you.

Quiz Questions

1. Caroline is interested in the extent to which personality characteristics are determined for life by genetics or the extent to which they can be changed as a result of the experiences of our lives. Which of the enduring issues discussed in this chapter best describes Caroline’s interests?
 - a. mind–body
 - b. diversity–universality
 - c. nature–nurture
 - d. person–situation