

# P R E F A C E



This textbook reflects our experiences as undergraduate students and later as faculty who have taught the introductory psychology course many times (25 years and approximately 50 course offerings between us). As undergraduates, neither of us planned to become a psychologist. Mike planned to major in physics or chemistry, and Ron was a journalism major with a minor in philosophy. But the introductory psychology courses prompted both of us to change our majors to psychology. Because of instructors who brought psychology to life, we left our introductory courses with four goals that have remained with us ever since:

- To teach students that the world of behavior is downright fascinating;
- To help students think critically and analytically about behavior;
- To bring the applied and basic aspects of psychology to life through applying scientific principles to real-world problems;
- To show the relationship between basic and applied science.

Years later, these themes remain our guideposts when we teach introductory psychology. As instructors, we want to pass on the torch of excitement about studying behavior that we received as undergraduates, and that we have experienced as scientists. To achieve this goal, we present the field from a perspective that emphasizes the interplay between basic science and applied science. Our goal is to bring both aspects of psychological science to life for our students by engaging them in the process of discovery and the application of scientific principles to real-world problems. We strive to foster analytical thinking that teaches students how to view the world of behavior in a more sophisticated fashion, as most psychologists do. This approach has been well received by our students over the years.

Before describing how our book captures these themes, let's address one other key issue. In an exit poll of graduating psychology majors at our university, most students report that the introductory psychology course was the most important stimulus for their deciding to major in psychology. Indeed, it is always gratifying to run into psychology majors who tell us that we helped shape their academic careers. But also important are the greater

number of students who will not major in psychology or even take another psychology course. The introductory course is our one opportunity to inform and excite these students about psychological science and its contributions to their lives and to society.

## » THEMES AND FEATURES OF THE TEXT

*"[One strength is] the use of themes that are carried throughout the book that emphasize basic concepts about psychology and behavior. These help to provide a more unified perspective on psychology. The chapters do not seem as disconnected as they often do in other books"*

— Robert Kaleta, University of Wisconsin-Milwaukee

To provide a more cohesive approach to psychology, we have created a simple thematic framework that is integrated throughout the book. This framework is enhanced by our book's emphasis on the science of psychology and coverage that explicitly links basic and applied psychology.

## Promoting Analytic Thinking: A Simple Framework That Students Will Remember

When teaching introductory psychology, we seek to enhance students' ability to think analytically about behavior, as psychologists do. To help students become more sophisticated in their everyday understanding of behavior, we present a simple framework that emphasizes the multicausal nature of psychology: *The causes of behavior can be studied at biological, psychological, and environmental levels of analysis.*

Our text establishes this theme in Chapter 1, where we describe the history of psychology in relation to the biological, cognitive, behavioral, psychodynamic, humanistic, and sociocultural perspectives that guide contemporary thinking in our field. We show how these perspectives contribute to the multilevel analysis of causal factors, and carry this unifying theme throughout the book in textual discussion and in special graphic features. These figures, entitled *Understanding the Causes of Behavior*, summarize the biological, psychological, and

environmental causes discussed for specific topics. This levels-of-analysis framework is selectively applied once within each chapter to achieve a unifying consistency without being overly repetitious.

**Cultural and gender issues** are at the forefront of contemporary psychology, and it is crucial for any introductory textbook in psychology to nourish analytical thinking about these issues. Rather than isolating this material within one chapter, we have emphasized and integrated it throughout the text. Our multicausal levels of analysis approach represents culture at two levels: as an environmental factor and as a psychological factor that reflects the internalization of cultural influences. Cultural and gender issues are highlighted in several of the in-depth special features found throughout the book. We discuss cultural and gender influences on such diverse topics as pain, visual perception, psychopathology, self-concept, sexuality, cognitive skills, love and marriage, and coping strategies.

The textbook fosters analytic thinking in other ways. Without being overly repetitious, we return periodically to important themes, such as the inability to draw causal conclusions from correlational results. A special research feature within each chapter not only describes the methods and results of a specific study, but also critically evaluates it. Critical thinking questions at various places in the text also promote active learning. Finally, at the end of each chapter, a feature called *Applying Your Knowledge* consists of a set of ten multiple-choice questions that require students to analyze scenarios in light of what they have learned in the chapter.

## Fostering an Understanding of Scientific Principles and Methods

*“The authors have definitely written a rigorous and complete text that demonstrates why and how psychological research should be carried out.”*

— Betty M. Davenport

Throughout the book, we emphasize the science of psychology. Psychological science is fascinating not only because of the rich insights it provides about human and animal behavior, but also because of its dynamic, evolving nature. To highlight this evolving feature of our science, each chapter includes an in-depth feature called **Psychological Frontiers** that presents cutting-edge scientific discoveries such as *Virtual Reality as a Therapeutic Technique* (Chapter 15).

Students need to know not only the findings derived from research, but also how the research is done. We live in an era in which students are bombarded with scientific information and misinformation. Therefore we have devoted special attention to Chapter 2, “Studying Behavior Scientifically.” There are two keys to a successful and engaging methods chapter: clear explanations and lively ex-

amples of scientific concepts and methods drawn from actual research. The chapter includes an exercise designed to help students experience the pitfalls of hindsight bias, a feature on paranormal phenomena that highlights the importance of not accepting conclusions at face value, and critical thinking exercises in which students are challenged to detect flaws in scientific reports or the popular press.

In addition to our research chapter, every other chapter includes a special feature called *Research Close-Up* that presents a classic or recent study in journal format (background, method, results, and critical analysis). Together, these features provide a window to the researcher’s world, an understanding of empirical methods, and an opportunity to think critically about research findings.

We also strive to emphasize the constantly evolving nature of psychological research. New findings appear monthly in hundreds of scientific journals around the world. Every article presents a new or replicated finding, or it isn’t published. Keeping up with the stream (or more accurately the torrent) of new studies is a special challenge for textbook authors. In our attempt to provide an accurate portrait of our discipline, we have made every attempt to be as current as possible. As late as August 2000, when other books with a 2001 copyright were already published, we were adding new material. As a result of our philosophical commitment to currency, nearly a quarter of the book’s 2,750 citations are post-1998, with more than 200 references from the year 2000. Yet our effort to make our book as current as possible has not occurred at the expense of classic studies. Whenever possible, we try to include both a classic and a later study in our citations. Nonetheless, we favor currency not for gratuitous reasons, but because a recent reference is, in general, more useful for students who look them up for scholarly reasons. Newer articles cite past studies, whereas older studies cannot cite those published later.

## Emphasizing the Relationship Between Basic and Applied Science

*“The applications sections . . . are particularly commendable. Again, issues of relevance for students confronted with so much information are addressed in [these] sections, which I enjoyed reading.”*

— Stephen Saunders  
Marquette University

Reciprocal relations between basic and applied science are emphasized throughout the text. Students who read our book will understand that many questions studied from a basic science perspective are inspired by real-world questions and issues. They also will see that basic research findings often have implications for solving social and individual problems. When such applications occur, their effects should be evaluated empirically.

Scientific applications are emphasized in three ways. First, numerous examples are woven throughout the main text. Second, a special feature called *Applications of Psychological Science*, presented in each chapter, demonstrates in greater depth how basic research principles can be applied directly to a social problem or to the student's own life. Finally, this basic/applied theme is reinforced once again in a capstone chapter, *Psychology and Society: From Basic Research to Social Application* (Chapter 16). In this chapter, we link psychological principles and research findings discussed in previous chapters to successful social interventions in critical areas such as health promotion, violence reduction, early childhood intervention, and reduction of multicultural conflict. We want students to leave their introductory course with a solid appreciation for what psychology has to offer society and with an understanding of how challenging it is to design, implement, and evaluate social interventions. We were gratified when one reviewer of this chapter wrote, "It just may remind students of why they took the course in the first place."

## › OUR PEDAGOGICAL FRAMEWORK

A textbook is, first and foremost, a learning tool. Consistent with our emphasis on the use of scientific data for applied purposes, we have incorporated pedagogical tools that have an empirical basis within the book. One important example is what we call *directed questions*, which occur in the margin of the book adjacent to important concepts and facts. These are designed to function as study guides and retrieval cues. Their inclusion was inspired by educational research on the value of "adjunct questions" in learning and retaining factual and conceptual material. In one major review, Richard Hamilton (1985) reviewed thirty-five different experimental studies comparing the use of adjunct questions with control conditions in which participants simply read textual material. He found that questions like ours enhanced retention of facts and concepts by about 20 percent. This approach has proven so successful with our own students that we chose to make it an integral learning tool in this text.

An in-depth *Applications of Psychological Science* feature in Chapter 1 informs students about the scientific basis for the directed questions feature and instructs them in how to apply this tool in their studies. Instructors can also use the questions as a focus for homework assignments, as a study guide, and as a basis for test questions. Our directed questions should not be confused with the broader questions used in the SQ3R approach; ours are more numerous and specific. If students can answer all of them, they will have achieved a high level of content mastery and should perform very well on tests.

Four other *Applications* features throughout the book impart skills that can enhance student learning and course performance: behavioral self-regulation; memory enhancement; systematic goal setting; and stress management.

## › ACKNOWLEDGEMENTS/ REVIEWERS

A project having the scope of an introductory psychology text is truly a team enterprise, and we have been the lucky recipients of a great team effort. We wish to thank and acknowledge the contributions of the many people who made this book possible. Jane Vaicunas convinced us (quite correctly) that McGraw-Hill was a perfect match for us as a publisher. We thank her for her faith in this project. Shortly afterward, Joe Terry became our sponsoring editor and guided the project for the next two years. We express our gratitude to Joe for his guidance, wisdom, and support. Mindy DePalma and Nancy Crochiere, our developmental editors, were wonderful to work with, and they helped keep the project on course through several rounds of reviews. On the production end, special thanks go to our Project Director, Mary Lee Harms, for her cheerful and skillful coordination of the numerous production details. Her flexibility and wisdom was a constant source of support. Stuart Paterson guided the design and is largely responsible for the look of the book. Bea Sussman did a wonderful job as copy editor, and Toni Morris worked tirelessly and with great tenacity to satisfy our sometimes arcane photo requests. You will find many unique photos in this book, thanks to Toni's efforts. On our end of the production pipeline, we express a special debt of gratitude to Geraldine Williams, who helped us with the seemingly endless faxes and mailings during the course of the project.

In today's market, quality ancillaries are a critical element in the success of any text. Barbara Santoro did a wonderful job coordinating the development of our supplementary materials, and she compiled an exceptional team. We thank Don Christensen (University of Washington), Kathleen Malley-Morrison (Boston University), and David Jones (Westminster College) for developing supplements that are second to none in quality.

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## SUPPLEMENTS FOR THE INSTRUCTOR

### Print

**Instructor's Manual.** A rich collection of lecture leads, learning objectives, in-class demonstrations, case studies, critical thinking questions, and current controversies will make preparing for your course a snap. This manual also provides many activity suggestions as well as handout and overhead transparency masters that will be sure to engage your students' interest in class material.

**Test Bank and Computerized Test Bank.** Keyed to the chapter learning objectives and marginal directed questions, the Test Bank contains approximately 250 questions per chapter to give you maximum flexibility. Each chapter contains roughly 175 multiple-choice, 20 fill-in-the-blank, 20 matching, 20 true/false, and 5 essay questions.

### Multimedia

**On-Line Learning Center for Instructors.** This password protected electronic resource contains PowerPoint lectures, the entire Instructor's Manual, an Image Bank, Web links, and a host of additional current resources.

**Instructor's Resource CD-ROM.** This CD-ROM contains PowerPoint presentations, an Image Bank, Test Bank, and Instructor's Manual in addition to an easy-to-use interface for the design and delivery of multimedia classroom presentations.

**Videos.** McGraw-Hill is committed to providing you with the video resources you need. Ask your sales representative for a brochure of current offerings.

## ➤ SUPPLEMENTS FOR THE STUDENT

### Print

**Student Study Guide.** Keyed to the guided questions in the text margin, the Study Guide contains helpful diagrams, a chapter overview and outline, key words and key people matching exercises, a chance to apply concepts, and practice chapter tests. In addition, the Study Guide also includes a practice midterm and final! This is the perfect supplement for students who are motivated to succeed.

### Multimedia

**On-Line Learning Center for Students.** This rich collection of electronic resources features an interactive quizzing center, learning objectives from the Study Guide,

crossword puzzles, interactive exercises and drag-and-drop graphics, statistics primer, Psychology Careers Appendix, and a study skills primer.

**Making the Grade Student CD-ROM.** Packaged free with each copy of the text, this CD-ROM tool kit is designed to help your students perform at their best. It contains practice quizzes, a learning styles assessment, study skills primer, guide to electronic research, and a link to the text website.

**PRISM CD-ROM.** This student CD-ROM contains over 60 interactive exercises and activities, the complete Study Guide, a Psychology Careers Appendix, practice quizzes, Psychology Around the Globe interactive articles, and an Internet Primer. A great way to make studying a more effective exercise.

**PSYCHOLOGICAL FRONTIERS**


**Cultural and Psychological Influences on Pain**

Our interpretation of pain impulses sent to the brain depends in part on our experiences and beliefs, and both of these factors are influenced by the culture in which we develop (Rollman, 1998). Consider childbirth, for example. This event is a painful ordeal for many mothers in Western cultures, and many women express considerable anxiety about going through it (Blechman & Brownell, 1998). Yet in certain cultures women show virtually no distress during childbirth. Indeed, in one culture studied by anthropologists, it was customary for the woman's husband to get into bed and groan as if he were in great pain, while the woman calmly gave birth to the child. The husband stayed in bed with the baby to recover from his terrible ordeal while the mother returned to work in the fields almost immediately (Kroeber, 1948).

In certain parts of India, people practice an unusual hook-hanging ritual. A holy person is chosen to bless the children and crops in a number of neighboring villages. Large steel hooks attached by ropes to the top of a special ceremonial cart are then shoved under the skin and muscles on each side of his back, and he travels on the cart from village to village. At the climax of a ceremony in each village, the celebrant leaps from the cart and swings free, hanging only by the hooks embedded in his back (Figure 4.49). Incredibly, though impaled on the hooks with his entire body weight, the celebrant shows no evidence of pain during the ritual; on the contrary, he appears to be in a state of ecstasy. When the hooks are removed, the wounds heal rapidly and are scarcely visible within two weeks (Kosambi, 1967).

Although ethnic groups do not appear to differ in their ability to discriminate among pain stimuli, members of different cultural groups may differ greatly in their interpretation of pain and the amount of suffering they experience (Rollman, 1998; Zatzick & Dimsdale, 1990). In the Indian hook-hanging ceremony, for example, the religious meanings attached to the act seem to transform the interpretations and meaning of the sensory input from the hooks as well. The role of cultural factors in pain is found even within modern Western subcultures. In a study done in the Worcester, Massachusetts, area, researchers studied pain perception in 372 medical patients who represented six different ethnic groups: Old Americans (at least third-generation U.S.-born Caucasians who identified with no ethnic group except Americans), Hispanics, Italians, Irish, French Canadians, and Polish. All of the patients suffered from chronic pain conditions that had persisted for at least three months and were beyond the point of healing. The patients completed self-report measures about their pain experiences.

The ethnic groups did not differ overall in type of physical affliction, how long they had had it, or the kinds



**FIGURE 4.49** A hook-swinging ceremony practiced in remote villages in India illustrates the importance of the meaning attributed to pain stimuli. After blessing all the children and farm fields in a village, the celebrant leaps from the cart and hangs suspended by the hooks in a state of ecstasy, showing no sign of pain. Adapted from Kosambi, 1967.

of treatments and medications they were receiving. They did differ, however, in the pain levels they reported, and these differences were associated with different attitudes and beliefs about their pain. The Hispanic and Italian patients believed most strongly that they had no control over their pain, reported feeling worried and angry about it, and believed that they would be unhappy as long as they experienced it. They also believed that it is appropriate to express one's pain openly. These two ethnic groups reported the highest levels of pain and suffering. In contrast, the Old American and Polish patients felt it best to suppress the outward expression of pain, reported feeling less upset about their pain sensations, and believed that they had greater personal control over their lives. These attitudinal differences were associated with much lower levels of reported suffering (Bates et al., 1993).

Differences exist not only between cultural groups but also within them, as the physician Henry Beecher (1959) observed while working at Anzio Beachhead in World War II and later at Massachusetts General Hospital. Beecher found that only about 25 percent of the severely wounded

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**Psychological Frontiers**

This in-depth feature highlights cutting-edge research and issues in psychology. It emphasizes basic research and its relevance to societal applications. This feature illustrates the dynamic nature of psychological science and ways in which it can promote human betterment.

## Applications of Psychological Science

This feature compellingly shows the student how principles derived from basic research have direct individual and social applications. Some features provide direct guidelines for the student's personal benefit, whereas others focus on more global societal issues.

**APPLICATIONS OF PSYCHOLOGICAL SCIENCE**

**Making Close Relationships Work: Lessons From Psychological Research**

Close relationships go through good times and bad, persisting or dissolving over time. Consider marriage. Though highly intimate, this union often is fragile. In the United States, about half of first marriages end in divorce, and the failure rate for second marriages is higher. How can people make their close relationships more satisfying and stable? Recent research on marriage suggests several answers that also can be applied to dating relationships and friendships.

For decades, most marital research simply asked people about their marriages. But as Figure 9.23 shows, researchers are now bringing couples into laboratories to videotape their interactions and to chart their facial and physiological responses as they discuss emotionally charged issues (Gottman et al., 1999; Kiecolt-Glaser et al., 1998). Rather than focusing only on unhappy couples to find out what is going wrong in their relationships, researchers are also studying happy couples to discover the secrets of their success.

Using these methods and new marital interview techniques, psychologists have predicted whether marriages will last or dissolve with impressive accuracy (Carriere et al., 2000). In one laboratory study, John Gottman and his coworkers (1998) collected behavioral and physiological data from 130 newlywed couples as they discussed areas of marital conflict (e.g., in-laws, finances, sex) during the first six months of their marriage. Six years later, participants reported being happily married, unhappily married, or divorced. Using data collected while the couples were newlyweds, the researchers predicted which marriages would end in divorce with 83 percent accuracy, and the degree of marital satisfaction in still-married couples with 80 percent accuracy.

Surprisingly, the amount of anger expressed by husbands and wives in their laboratory interactions predicted neither stability nor happiness six years later. Instead, the crucial factor was the manner in which couples dealt with their anger. Particularly important were four behaviors that Gottman (1994) calls "The Four Horsemen of the Apocalypse": *criticism*, *contempt*, *defensiveness*, and *stonewalling* (listener withdrawal and nonresponsiveness).

Couples headed for unhappiness or divorce often exhibit these behaviors while discussing conflict, thereby escalating their conflict and negative emotions. When the wife criticizes the husband, he often stonewalls and withdraws from her attempts to reach some resolution. Her resulting frustration leads to stronger emotional displays and criticism, and the interaction degenerates into exchanges of contempt in which the partners tear down




**FIGURE 9.23** In John Gottman's "love lab," married couples (husband visible in rear) are filmed while interacting. Facial expressions, actions, heart rate, breathing rate, perspiration, fidgeting, and other responses are measured.

each other. Once this negative cycle develops, even positive overtures by one spouse are likely to evoke a negative response from the other (Margolin & Wampold, 1981).

Happily married couples experience conflict and anger too, but do not allow the spiral of negativity to get out of control. Instead, they make frequent "repair attempts" to resolve their differences in a spirit of mutual respect and support. Gottman and his coworkers (1998) found that in happy marriages, the wife often introduced the conflict topic in a softened or low-intensity manner, rather than

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## RESEARCH CLOSE-UP

### Stalking a Deadly Illusion

#### Background

When the Boeing Company introduced the 727 jet airliner in the mid-1960s, it was the latest word in aviation technology. The plane performed well in test flights, but four fatal crashes soon after it was placed in service raised fears that there might be some fatal flaw in its design.

The first accident occurred as a 727 made its approach to Chicago over Lake Michigan on a clear night. The plane plunged into the lake 19 miles offshore. About a month later, another 727 glided in over the Ohio River to land in Cincinnati. Unaccountably, it struck the ground about 12 feet below the runway elevation and burst into flames. The third accident occurred as an aircraft approached Salt Lake City over dark land. The lights of the city twinkled in the distance, but the plane made too rapid a descent and crashed short of the runway. Months later, a Japanese airliner approached Tokyo at night. The flight ended tragically as the plane, its landing gear not yet lowered, struck the waters of Tokyo Bay 6 miles from the runway.

Analysis of these four accidents, as well as others, suggested a common pattern. All occurred at night under clear weather conditions, so that the pilots were operating under visual flight rules rather than performing instrument landings. In each instance, the plane was approaching city lights over dark areas of water or land. In all cases, the lights in the background sloped upward to varying degrees. Finally, all of the planes crashed short of the runway. These observations led a Boeing psychologist, Conrad L. Kraft, to suspect that the cause of the crashes might be pilot error based on some sort of visual illusion.

#### Method

To test this possibility, Boeing engineers constructed an apparatus to simulate night landings (Figure 4.46). It consisted of a cockpit and a miniature lighted "city" named Nightertown. The city moved toward the cockpit on computer-controlled rollers, and it could be tilted to simulate various terrain slopes. The pilot could control simulated air speed and rate of climb and descent, and the Nightertown scene was controlled by the pilot's responses just as a true visual scene would be.

The participants were 12 experienced Boeing flight instructors who made virtual reality "landings" at Nightertown under systematically varied conditions created by the computerized simulator. All of their landings were visual landings so as to be able to test whether a visual illusion was occurring. Every aspect of their approach and the manner in which they controlled the aircraft was measured precisely.



FIGURE 4.46 Conrad Kraft, a Boeing psychologist, created an apparatus to study how visual cues can affect the simulated landings of airline pilots. Pilots approached Nightertown in a simulated cockpit. The computer-controlled city could be tilted to reproduce the illusion thought to be responsible for fatal air crashes.

#### Results

The landings made by the flight instructors were nearly flawless until Kraft duplicated the conditions of the fatal crashes by having the pilots approach an upward-sloping distant city over a dark area. When this occurred, the pilots were unable to detect the upward slope, assumed that the background city was flat, and consistently overestimated their altitude. On a normal landing, the preferred altitude at 4.5 miles from the runway is about 1,240 feet. As Figure 4.47 shows, the pilots approached at about this altitude when the simulated city was in a flat position. But when it was sloped upward, 11 of the 12 experienced pilot instructors crashed about 4.5 miles short of the runway.

#### Critical Analysis

This study shows the value of being able to study behavior under highly controlled conditions and with precise measurements. By simulating the conditions under which the fatal crashes had occurred, Kraft identified the visual illusion that was the source of pilot error. He showed that the perceptual hypotheses of the flight instructors, like those of the pilots involved in the real crashes, were tragically incorrect. It would have been ironic if one of the finest jet liners ever built had been removed from service because of presumed mechanical defects while other aircraft remained at risk.

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## Research Close-Ups

Each Research Close-Up describes and critically evaluates a high-interest study. Presented in a simplified journal format (background, method, results, critical discussion), these high-interest studies represent a diversity of research methods.

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CHAPTER ONE

38. Which causal factors in depression are seen at the environmental level of analysis?

39. What is meant by the interaction of causal factors?

been subjected to severe loss and neglect may develop pessimistic personalities that predispose them to slide into depression in the face of later life stresses.

Finally, the environmental level of analysis reveals several factors that play a major role in depression. According to the behavioral view, depression is a reaction to a nonrewarding environment. A vicious cycle begins when the environment provides fewer rewards for the person. As depression intensifies, such people feel so badly that they stop doing the things that ordinarily give them pleasure, a pattern that decreases environmental rewards still further. To make things worse, depressed people complain a good deal, seek excessive reassurance and support from others, and generally become less likeable. These behaviors eventually begin to alienate others and cause them to shy away from the depressed person. The net result is a worsening environment with fewer rewards, a reduction in support from others, and the unhappiness and hopeless pessimism that characterize chronic depression (Lewinsohn et al., 1985; Nezlek et al., 2000).

The sociocultural environment also affects depression. Although depression is found in virtually all cultures, both its symptom pattern and its causes may reflect cultural differences. For example, feelings of guilt and personal inadequacy seem to predominate in North American and western European countries, whereas bodily symptoms of fatigue, loss of appetite, and sleep difficulties are more often reported in Latin, Chinese, and African cultures (Brislin, 1993; Lopez & Guamaccia, 2000). Cross-cultural studies have also shown that in developed countries like the United States, Canada, and other Western nations, women are about twice as likely as men to report feeling depressed, whereas no such sex difference is found in developing countries (Culbertson, 1997; Nolen-Hoeksema, 1990). Why should this be? At present, we do not have the answer, but we must wonder what it is about more technologically advanced cultures that would produce a sex difference that does not show up in developing countries.

Figure 1.23 summarizes causal factors in depression that are supported by theory and research. Although these causal factors are organized into three classes (biological, psychological, and environmental), we should keep two important points in mind. First, the specific causes of depression can not only differ from case to case, but they can also combine or *interact* with one another in ways that vary according to the person and the situation. **Interaction** means that the presence or strength of one factor can influence the effects of other factors. For example, a person who has a strong biological predisposition for depression may become de-

## Directed Questions

Each chapter has an average of forty to fifty directed questions that enhance student concept mastery, serve as retrieval clues during review, and act as a performance feedback measure for students.

## Understanding the Causes of Behavior

This graphic feature occurs once in every chapter and accomplishes two important goals. First, it reinforces the central theme that behavior can be studied at biological, psychological, and environmental levels of analysis. Second, it summarizes the text's discussion of causal factors pertaining to a specific phenomenon, such as immune system functioning, learning, stress, aggression, and drug responses.

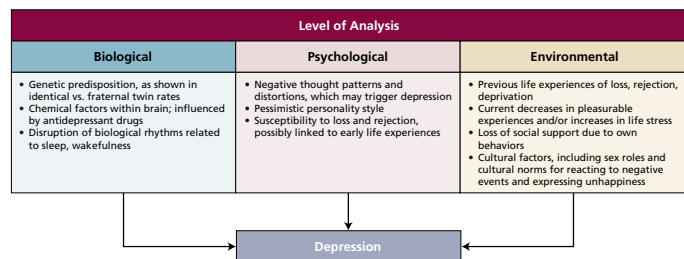


FIGURE 1.23 Understanding the Causes of Behavior: Biological, psychological, and environmental factors in depression.

## Chapter Summary

The end-of-chapter summaries provide a bulleted list that highlights the major topics covered under each section within the chapter.

## CHAPTER SUMMARY

### Perspectives on Motivation

- Motivation is a process that influences the direction, vigor, and persistence of behavior. Evolutionary psychologists propose that in our ancestral past, motivational tendencies that had adaptive significance were more likely to be passed from one generation to the next, eventually evolving into genetically based predispositions to act in certain ways.
- Homeostatic models view motivation as an attempt to maintain equilibrium in bodily systems. Drive theories propose that tissue deficits create drives, such as hunger, that motivate or “push” an organism from within to reduce that deficit and restore homeostasis.
- Incentive theories emphasize the role of environmental factors that “pull” people toward a goal. The cognitive expectancy  $\times$  value theory explains why the same incentive may motivate some people, but not others.
- Psychodynamic theories emphasize that unconscious motives and mental processes guide much of our behavior. Humanist Abraham Maslow proposed that needs exist in a hierarchy, from basic biological needs to the ultimate need for self-actualization.

### Hunger and Weight Regulation

- The body monitors several chemicals involved in energy utilization. Changing patterns of glucose usage provide one signal that helps initiate hunger. Upon eating, hormones such as CCK are released into the bloodstream and help signal the brain to stop eating. Fat cells release leptin, which acts as a long-term signal that helps to regulate appetite. The hypothalamus and other brain regions play a role in hunger regulation.
- The expected good taste of food motivates eating and the thought of food can trigger hunger. Our memory, attitudes, habits, and psychological needs affect our food intake.
- The availability, taste, and variety of food powerfully regulate eating. Through classical conditioning, neutral stimuli can acquire the capacity to trigger hunger. Cultural norms affect our food preferences and eating habits.
- Heredity and the environment affect our susceptibility to becoming obese. Homeostatic mechanisms make it difficult to lose substantial weight.
- Anorexia and bulimia are eating disorders that have serious physical consequences, occur more often in cultures that value thinness, and are associated with different psychological profiles and childhood patterns of family interaction.

### Sensation-Seeking

- Humans and other animals tend to seek out novelty and stimulation. High sensation seekers are more likely to engage in risky activities than are low sensation seekers.
- Sensation seeking may have a biological basis. High sensation seekers may be less reactive to external stimulation than are low sensation seekers.

### Sexual Motivation

- The last half century has witnessed changing patterns of sexual activity, such as an increase in premarital sex.
- During sexual intercourse people often experience a four-stage physiological response pattern consisting of excitement, plateau, orgasm, and resolution.
- Sex hormones have organizational effects that guide the prenatal development of internal and external organs along either a male or female pattern. Sex hormones also have activation effects that influence sexual desire.
- Sexual fantasy can trigger arousal, whereas stress and psychological difficulties can interfere with sexual arousal. Cultural norms determine the sexual practices and beliefs that are considered moral, proper, and desirable.
- Environmental stimuli affect sexual desire. Viewing sexual violence reinforces men’s belief in rape myths and increases men’s aggression toward women, at least temporarily.
- Sexual orientation involves dimensions of self-identity, sexual attraction, and actual sexual behavior. No single biological, social, or psychological factor—and no specific combination of causes—has been clearly identified as the cause of sexual orientation.

### The Desire for Affiliation and Intimacy

- Affiliation has adaptive advantages and allows people to engage in social comparison.
- Proximity, mere exposure, similarity of attitudes, and physical attractiveness typically enhance our liking for someone else.
- Evolutionary theorists propose that cross-cultural gender differences in mate preferences reflect inherited biological tendencies, whereas social structure theory argues that they result from sex-role socialization and societal gender inequities in economic opportunities.
- Relationships deepen as partners self-disclose and exchanges between them become more intimate and broader. According to social exchange theory, people will be satisfied when their relationship outcomes exceed their comparison level, and they will remain in the relationship if the outcomes exceed their comparison level for alternatives.
- Different combinations of intimacy, commitment, and passion lead to different types of love. Due to transfer of excitation, arousal caused by some other factor may be misattributed as increased feelings of passion toward someone we find attractive.
- Partners are more likely to remain happily married when they understand each other and deal with conflicts by de-escalating their emotions and providing mutual support.

### Achievement Motivation

- People who have a high motivation for success are attracted to the thrill of victory and value mastery and social comparison. People who have a high fear of failure experience anxiety in achievement settings. They are motivated by social comparison and a fear of performing poorly.

## KEY TERMS AND CONCEPTS\*

- |                                  |  |  |
|----------------------------------|--|--|
| achievement test (341)           | inductive reasoning (328)              | problem-solving schemas (331)          |
| algorithm (332)                  | intelligence (337)                     | proposition (323)                      |
| aptitude test (341)              | intelligence quotient (IQ) (338)       | propositional thought (323)            |
| availability heuristic (334)     | interjudge reliability (343)           | prototype (323)                        |
| belief bias (329)                | internal consistency (343)             | psychological test (342)               |
| cognitive process theories (348) | knowledge-acquisition components (349) | psychometrics (344)                    |
| concept (323)                    | language (317)                         | reaction range (351)                   |
| confirmation bias (335)          | linguistic relativity hypothesis (322) | reliability (342)                      |
| construct validity (343)         | means-ends analysis (332)              | representativeness heuristic (333)     |
| content validity (343)           | mental representations (316)           | savant (347)                           |
| crystallized intelligence (346)  | mental age (338)                       | semantics (318)                        |
| deductive reasoning (327)        | mental set (331)                       | standardization (344)                  |
| deep structure (318)             | metacomponents (348)                   | stereotype threat (355)                |
| displacement (317)               | morpheme (318)                         | subgoal analysis (332)                 |
| divergent thinking (336)         | motoric thought (323)                  | surface structure (317)                |
| emotional intelligence (347)     | normal distribution (344)              | syntax (317)                           |
| factor analysis (345)            | norms (344)                            | telegraphic speech (320)               |
| fluid intelligence (346)         | performance components (349)           | test-retest reliability (342)          |
| functional fixedness (336)       | phoneme (318)                          | triarchic theory of intelligence (348) |
| heuristics (332)                 | predictive validity (343)              | validity (343)                         |
| imaginal thought (323)           | primary mental abilities (345)         |  |
| incubation (336)                 |  |  |

\* Each term has been boldfaced in the text on the page indicated in parentheses.

## Key Terms and Concepts

This feature lists the key terms and concepts found throughout the chapter. Page references are provided with each key term to facilitate references to key locations within the chapters.

## APPLYING YOUR KNOWLEDGE

1. “Tom eats hamburgers. Pizza eats Tom.” Which statement about these two sentences is correct?
  - a) Both sentences are semantically correct.
  - b) Only one sentence has correct syntax.
  - c) Neither sentence is semantically correct.
  - d) Both sentences have correct syntax.
2. A mother instructs her son to tell her neighbor, “I’ll be home at four, but I’ll be out until then.” He tells the neighbor, “Mother will be gone most of the day, but she’ll be back by four.” The son clearly remembered the
  - a) surface structure, but not the deep structure
  - b) syntax of the message, but not the semantics
  - c) deep structure, but not the surface structure
  - d) phonemes, but not the morphemes
3. Shelley is trying to develop a theoretical principle. She considers the facts she knows to be true of the phenomenon she is studying. She then tries to reason from these facts to a conclusion about causal factors. Shelley is engaging in
  - a) inductive reasoning
  - b) propositional reasoning
  - c) syllogistic inference
  - d) deductive reasoning
4. You ask twenty of your acquaintances to rate the likelihood of the following statements: (a) There will be a flood in southern California; (b) There will be an earthquake in California that causes a flood. Sixteen of your participants

## Applying Your Knowledge

Applying Your Knowledge is an end-of-chapter set of ten multiple-choice questions that require students to apply the chapter’s content to concrete situations.