# Essentials of UNDERSTANDING PSYCHOLOGY



ROBERT S. FELDMAN

SECOND EDITION

# ESSENTIALS OF UNDERSTANDING PSYCHOLOGY

Robert S. Feldman

University of Massachusetts at Amherst

# McGraw-Hill, Inc.

New York St. Louis
San Francisco
Auckland
Bogotá Caracas
Lisbon London Madrid
Mexico City Milan Montre
New Delhi San Juan
Singapore Sydney
Tokyo
Toronto

# **ESSENTIALS OF UNDERSTANDING PSYCHOLOGY**

Copyright © 1994, 1989 by McGraw-Hill, Inc. All rights reserved. Portions of this book have been taken from *Understanding Psychology*, Third Edition. Copyright © 1993, 1990, 1987 by McGraw-Hill, Inc. All rights reserved. Printed in the United States of America. Except as permitted under the United States Copyright Act of 1976, no part of this publication may be reproduced or distributed in any form or by any means, or stored in a data base or retrieval system, without the prior written permission of the publisher.

This book is printed on acid-free paper.

1234567890 VNH VNH 909876543

ISBN 0-07-021248-1 (hard cover)

ISBN 0-07-021236-8 (soft cover)

This book was set in New Baskerville by CRWaldman Graphic Communications. The editors were Christopher Rogers, Laura Lynch, and Margery Luhrs; the production supervisor was Friederich W. Schulte. The cover was designed by Carol A. Couch.

Von Hoffmann Press, Inc., was printer and binder.

## Library of Congress Cataloging-in-Publication Data

Feldman, Robert S. (Robert Stephen), (date).

Essentials of understanding psychology / Robert S. Feldman—2nd ed.

p. cm.

Abridged ed. of: Understanding psychology. 3rd ed. c1993.

Includes bibliographical references and index.

ISBN 0-07-021248-1 (hard)—ISBN 0-07-021236-8 (pbk.)

1. Psychology. I. Title. II. Title: Understanding psychology.

BF121.F34 1994

150—dc20 93-37332

# INTERNATIONAL EDITION

Copyright 1994. Exclusive rights by McGraw-Hill, Inc. for manufacture and export. This book cannot be re-exported from the country to which it is consigned by McGraw-Hill. The International Edition is not available in North America.

When ordering this title, use ISBN 0-07-113300-3.

# **ABOUT THE AUTHOR**



Robert S. Feldman is Professor of Psychology at the University of Massachusetts at Amherst, where he is head of the Personality and Social Psychology division. A graduate of Wesleyan University and the University of Wisconsin-Madison, he is a former Fulbright Senior Research Scholar and Lecturer. He is a Fellow of the American Psychological Association and the American Psychological Society and author of more than ninety scientific articles, book chapters, and papers. He has also written or edited ten books, including Fundamentals of Nonverbal Behavior (Cambridge University Press) and Applications of Nonverbal Behavioral Theory and Research (Erlbaum). His research interests include nonverbal behavior and the social psychology of education. His spare time is most often devoted to serious cooking and earnest, but unpolished, piano playing. He lives with his wife, also a psychologist, and three children, overlooking the Holyoke mountain range in Amherst, Massachusetts.

# PREFACE

The complexities and contradictions of human behavior defy easy explanation. We see good behavior and bad; we encounter rational and illogical conduct; and we find cooperation and violent competition among the peoples of the world.

The second edition of *Essentials of Understanding Psychology* reflects what psychologists have learned in their quest to understand and explain the behavior we see around us. The text is designed to provide a broad introduction to psychology. While focusing on the building blocks of the field, it also makes clear the relevance of psychology to people's everyday lives.

In revising *Essentials of Understanding Psychology*, I had three major goals. First, the book is designed to cover the major areas of the field of psychology, introducing its principal theories, research, and applications. Second, the book is meant to foster an appreciation of the scientific basis of the field, as well as providing an impetus for critical thinking. Finally, the book is intended to be engaging and interesting, a book arousing a reader's natural curiosity about the world. Ultimately, then, *Essentials of Understanding Psychology* is designed to nurture an appreciation of how psychology can be used to understand the society in which we live.

These three goals, of course, are interdependent. In fact, I would argue that if *Essentials of Understanding Psychology* is successful in accurately communicating the nature of psychology, understanding and interest regarding the field will follow naturally. To that end, I have lavished considerable attention on the book's writing style. It is intended to provide as close a facsimile to two people sitting down and discussing psychology as can be conveyed with the written word. When I use the word "we," then, I am referring to the two of us—me, the author, and you, the reader.

In addition, this text has special features that highlight the everyday relevance of psychology to the world around us (Psychology at Work boxes), discuss important and provocative new research findings (Cutting Edge boxes), and provide advice to improve the quality of our lives (Informed Consumer of Psychology sections).

It is also a book that has been carefully designed to promote learning. Material is presented in rational, manageable chunks, each of which is followed by a succinct summary (called a Recap) and a set of questions on the material (a Review). A reader who answers these questions—and then checks the answers, which are provided on a following page—will be able to assess the degree of initial mastery of the material, as well as having a head start on long-term recall and understanding of the information.

In sum, *Essentials of Understanding Psychology* is designed to be user-friendly. It is a book that not only introduces readers to the basic content—and promise—of psychology, but does so in a way that brings alive the excitement of the field. My hope is that initial exposure to the realm of psychology will forge an ongoing enthusiasm and passion for the discipline, one that lasts a lifetime.

## WHAT'S NEW IN THE SECOND EDITION?

Much thought has gone into the changes incorporated into this edition of Essentials of Understanding Psychology. Because the basic structure and features of

the first edition met with such a positive response from both students and professors, the fundamental attributes of the book remain intact. At the same time, additions and changes that reflect changes in the field of psychology have been incorporated.

Two new themes permeate the second edition of *Essentials of Understanding Psychology*. Explicitly recognizing the multicultural character of U.S. society, greater emphasis has been placed on the influence of culture, ethnicity, race, and human diversity on behavior, from both a subcultural and cross-cultural perspective. Multicultural material and information on diversity are included throughout the book. To cite just a few examples, the chapter on cognition and language discusses bilingualism; race norming in the scoring of personality tests is considered in the chapter on personality; and cultural orientations to individualism are discussed in the chapter on living in a diverse world.

The increasingly influential cognitive and cognitive neuroscientific perspectives have also provided a focal point for revision. Significant new material on cognition has been added throughout this edition. For example, the chapter on biopsychology discusses computational neuroscience and neural networks. In addition, the chapter on cognition has been expanded and updated.

Overall, a wealth of contemporary research is cited in this edition. Hundreds of new citations have been added, most published in the 1990s. Furthermore, an extensive array of new topics have been incorporated, along with information updating existing material. A sample of the new and revised topics featured in this edition provides a good indication of the currency of the revision: minority representation in the field of psychology, circadian rhythms, sex differences in smell, new theories of dreaming, diversity in learning styles, priming, bilingual training, genetic determinants of personality traits, homelessness, and cultural factors in the treatment of psychological disorders.

# AN OVERVIEW OF ESSENTIALS OF UNDERSTANDING PSYCHOLOGY

Essentials of Understanding Psychology is based on the 21-chapter, widely used third edition of Understanding Psychology, a broad and comprehensive introduction to the field of psychology. Like the book from which it is derived, Essentials of Understanding Psychology includes coverage of the traditional topical areas of psychology. It covers, for example, the biological foundations of behavior, sensation and perception, learning, cognition, development, personality, abnormal behavior, and the social psychological foundations of behavior.

Unlike its predecessor, however, *Essentials of Understanding Psychology* is a briefer volume. It focuses on the essence of psychology, providing an initial broad introduction to the field. The book also shows how the field's theories and research have an impact on reader's everyday lives.

There is considerable flexibility to the book's organizational structure. Each chapter is divided into between three and five manageable, self-contained units, permitting instructors to choose and omit sections according to their syllabus. In addition, the applications material is well-integrated throughout even the chapters that cover the most traditional, theoretical topics. Consequently, the relationship between theory, research, and applications of psychology is addressed throughout the book.

In sum, the book reflects a combination of traditional core topics and contemporary applied subjects, providing a broad, eclectic—and current—view of the field of psychology. It draws from theoretical and applied approaches, and



integrates the two with objective presentations of research that illustrate the way in which the science of psychology has evolved and grown. Indeed, the book exemplifies the view that a theory-application dichotomy is a false one. The text does not present applications as devoid of theory, but places them in a theoretical context, grounded in research findings. Likewise, when the text presents theoretical material, it draws practical implications from the theory.

# LEARNING AIDS AND FEATURES OF ESSENTIALS OF UNDERSTANDING PSYCHOLOGY

Essentials of Understanding Psychology is designed with its ultimate consumer—the student—in mind. As you can see from the following full list of elements that are common to every chapter, the book incorporates several major educational features. These features, based on learning and cognitive instructional design theory and research, are meant to make the book an effective learning device and, simultaneously, enticing and engaging:

- Chapter Outline. Each chapter opens with an outline of the chapter structure. The outline provides a means of understanding the interrelationships of the material within the chapter. It also serves as a form of chapter organizer, helping to bridge the gap between what a reader already knows and the subsequent chapter content.
- Prologue. Every chapter starts with an account of a real-life situation that involves major aspects of the topics of the chapter. These scenarios demonstrate the relevance of basic principles and concepts of psychology to actual issues and problems. For example, the chapter on the biology underlying behavior begins with a description of a patient undergoing a delicate operation to control seizures; the chapter on cognition discusses how NASA engineers devise a rescue in space; and the chapter on social psychology begins with an account of the tragic siege involving David Koresh's cult in Waco, Texas.
- Looking Ahead. A Looking Ahead section follows each Prologue. It articulates the key themes and issues, and lists a set of questions that are answered in the chapter.
- Psychology at Work. The Psychology at Work boxes illustrate an application of psychological theory and research findings to a real-world problem. For example, the chapter on the biology underlying behavior discusses how psychologists' theoretical findings on the brain are used by advertisers to analyze commercials; the chapter on states of conscious considers how a psychologist analyzed the speech of the captain of the Exxon Valdez, a ship involved in a major Alaskan oil spill, to determine if he was intoxicated; and Chapter 15 discusses posttraumatic stress disorder.
- The Cutting Edge. These boxed inserts describe a contemporary research program that is in the forefront of the discipline—suggesting where the field of psychology is heading. This feature helps provide a sense of the growing and developing status of the science of psychology. For instance, the biopsychology chapter explores current work on gender differences in the brains of males and females; the memory chapter discusses the evidence for implicit memory while anesthetized; the chapter on development presents findings relating use of drugs on the possible inheritance of shyness; and the chapter on living in a diverse world discusses sexual harassment.
- The Informed Consumer of Psychology. Every chapter includes information

PREFACE

designed to make readers more informed consumers of psychological information and knowledge by giving them the ability to evaluate critically what the field of psychology offers. For example, this feature covers strategies for critical thinking (cognition chapter), appropriate methods of dieting (motivation chapter), and choosing a therapist (treatment chapter).

- Recap and Review. Research clearly indicates the importance of carefully organizing textual material, learning material in relatively small chunks, and actively reviewing material. Consequently, each chapter is divided into three to five sections, each of which concludes with a Recap and Review. The Recaps summarize the key points of the previous section, and the Reviews present a variety of types of questions for students to answer—including multiple choice, fill-in, short answer, and critical thinking questions—in order to test both recall and higher-level understanding of the material.
- Running Glossary. Key terms are highlighted in boldface type where they are introduced, and they are defined in the margin of the text, with pronunciation guides for difficult words. There is also an end-of-book glossary.
- Looking Back. To simplify the review of the material covered in each chapter and to aid in the synthesis of the information covered, a numbered summary is included at the end of every chapter. The summary emphasizes the key points of the chapter.
- *Key Terms and Concepts*. A list of key terms and concepts, including the page numbers where they were first introduced, is also provided at the end of each chapter.
- A full-color graphic design. To support the instructional design features of the text, a team of graphic designers has developed a design structure to enhance the written material. The thoughtful design and photos make the text inviting and a book from which it is easy to learn.

### **ANCILLARY MATERIALS**

The second edition of *Essentials of Understanding Psychology* is accompanied by an extensive, integrated set of supplemental materials designed to support the classroom teaching of both new and veteran instructors. The centerpiece of the supplements is the student *Study Guide, Instructor's Manual*, and *Test Bank*. Together, these materials provide a consistent, integrated pedagogical framework for students and professors using *Essentials of Understanding Psychology*.

In addition to the student *Study Guide, Instructor's Manual*, and *Test Bank*, which provide the foundation of the book's supplements, McGraw-Hill provides a wide variety of audiovisual and computerized teaching aids. For example, Philip G. Zimbardo of Stanford University and Allen Funt have developed an innovative set of laser disks and videotapes using clips from *Candid Camera*, available exclusively through McGraw-Hill. Furthermore, the *Instructor's Manual* includes a list of the films available for use with each chapter, along with information about how these films can be accquired. Finally, a transparency and slide set is available to instructors using the text.

Several software packages also accompany this text. These include *Psych-World*, 2nd ed. (for IBM 3½ and 5¼ and Apple); *MacLaboratory*, 2nd ed. (for Macintosh); *Computer Activities for Psychology*, 4th ed. (CAPS IV, for IBM and Apple); *Experiments and Personal Applications in Psychology* (for IBM and Apple); and *Statistical Computation Program for Students* (for IBM and Apple).



Finally, professors using the second edition of *Essentials of Understanding Psychology* will be eligible to receive *PsychFAX*, a monthly update written by this book's author. *PsychFAX* includes reports of new psychological findings and discusses the psychological implications of current events in the news. *PsychFAX*, which is distributed on the first of each month via fax or mail, is designed to be distributed to students or incorporated into lectures.

## **ACKNOWLEDGMENTS**

As the long list of reviewers on page xix attests, this book involved the efforts of many people. They lent their expertise to evaluate all or part of the manuscript, providing an unusual degree of quality control. Their careful work and thoughtful suggestions have improved the manuscript many times over from its first-draft incarnations. I am grateful to them all for their comments.

My thinking has been shaped by many teachers along the way. I was introduced to psychology at Wesleyan University, where several committed and inspiring teachers—and in particular Karl Scheibe—made the excitement and relevance of the field clear to me. By the time I left Wesleyan, I could envision no other career but that of psychologist. Although the nature of the University of Wisconsin, where I did my graduate work, could not have been more different from the much smaller Wesleyan, the excitement and inspiration were similar. Once again, a cadre of excellent teachers—led, especially, by the late Vernon Allen—molded my thinking and taught me to appreciate the beauty and science of the discipline of psychology.

My colleagues and students at the University of Massachusetts at Amherst provide ongoing intellectual stimulation, and I thank them for making the university a very fine place to work. Several people also provided extraordinary research and editorial help; they include John Graiff, Nancy Goff, Sean Donovan, Lee Rosen, Carolyn Dash, Richard Fleming, Wendy Copes, Frances Ramos, Lisa Beck, and the late Kate Cleary.

Every reader of this book owes a debt of gratitude to Rhona Robbin, senior developmental editor. Her relentless pursuit of excellence shaped the underlying quality of this book. Chris Rogers, sponsoring editor, is a throwback to the old-fashioned days of publishing. Chris's creativity and concern about quality are increasingly rare commodities in a world of publishing conglomerates. I'm thankful to both Rhona and Chris, and I'm pleased to count them as friends.

Other people at McGraw-Hill were central to the design and production process; these include Margery Luhrs, editing supervisor; Jo Jones, designer; and Elsa Peterson, photo editor. I am proud to be a part of this first-class team.

Finally, I am, as always, indebted to my family. My parents, Leah Brochstein and the late Saul D. Feldman, provided a lifetime foundation of love and support. My extended family also play a central role in my life. They include, more or less in order of age, my nieces and nephews, my brother, various brothers- and sisters-in-law, Ethel Radler, and Harry Brochstein. I'm thankful for all that they add to my life. Finally, my late mother-in-law, Mary Evans Vorwerk, had an important influence on this book, and I remain ever grateful to her.

Ultimately, my children, Jonathan, Joshua, and Sarah, and my wife, Katherine, remain the focal point of my life. I thank them, with great love.

# **REVIEWERS**

Phillip Ackerman, University of Minnesota

Louis E. Banderet, Northeastern University

Gordon Barr, Hunter College

Robert C. Beck, Wake Forest University Brenda Bennett, Vincennes University

David Berg, Community College of Philadelphia

Allen E. Bergin, Brigham Young University Jeanine Bloyd, Spoon River College

Terry D. Blumenthal, Wake Forest University

Craig Bowman, California State University–Fullerton

Allen R. Branum, South Dakota State University

David M. Brodzinsky, Rutgers University Peter Burzynski, Vincennes University Jay Caldwell, California State University Bernardo Carducci, Indiana University Southeast

Steve Coccia, Orange County Community College

Lorry Cology, Owens Technical College Helen Joan Crawford, Virginia Polytechnic Institute and State University

James Dailey, Vincennes University Patrick T. DeBoli, Nassau Community College

Joyce Dennis, Southern Union State University

Barbara Dickson-Parnell, Independent Practice

William Dwyer, Memphis State University Marsha Epstein, Middlesex Community College

Walter Essman, Queens College Richard Ettinger, Eastern Oregon State College

William Ford, Bucks County Community College

Judith Gentry, Columbus State Community College Marvin W. Goldstein, Rider College David A. Griesé, SUNY at Farmingdale Gloria Griffith, Tennessee Tech University David Harnison, Virginia Polytechnic Institute

Earl Harper, Bunker Hill Community College

Lynn Hasher, Temple University Donna Hummel, Trinity College Janet Shibley Hyde, University of

Wisconsin-Madison

Carroll Izard, University of Delaware Tom Jackson, Fort Hays State University

Don Kaesser, Des Moines Area Community College

Kenneth D. Kallio, SUNY at Geneseo Lynn Kiorpes, New York University Michael Knight, Central State University Angela La Sala, Suffolk Community College

Kenneth B. LeSure, Cuyahoga Community College

David F. Lohman, University of Iowa Kevin McCaul, North Dakota State University

Harold Mansfield, North Dakota State University

Frederick Meeker, California State Polytechnic University

Linda Musun-Miller, University of Arkansas

Gary Naseth, Oregon Institute of Technology

Steve Noble, North Georgia College Fay-Tyler Norton, Cuyahoga Community College

Frances O'Keefe, Tidewater Community College

Joseph J. Palladino, University of Southern Indiana

Holly Pennock, Hudson Valley Community College

James Perry, East Tennessee State University Edward Pflaumer, Loma Linda University James Polyson, University of Richmond

Laura Puckett, North Hennepin Community College

Richard Rasor, American River College Michael Rodman, Middlesex Community College

Richard M. Ryckman, University of Maine–Orono

Valerie J. Sasserath, Chatham Township Schools

Joyce Schaeuble, Sacramento City College Alan Searleman, St. Lawrence University Harold I. Siegel, Rutgers University

Peggy Skinner, South Plains College Norman R. Simonson, University

of Massachusetts-Amherst

Luella Synder, Parkland College Robert D. Sorkin, University of

Florida–Gainesville Robert Stern, Pennsylvania State

University
Alfred W. Stone, Edinboro University

Alfred W. Stone, Edinboro University of Pennsylvania

Michael J. Strube, Washington University John Suller, Rider College

Granville L. Sydnor, San Jacinto College

Robert Thompson, Hunter College David Tuber, Ohio State University

Carol Vitiello, Kirkwod Community College

Benjamin Wallace, Cleveland State University

Charles Weichert, San Antonio College Richard Williams, Imperial Valley College

Fred Wright, John Jay College of Criminal Justice

Stephen Zaccaro, George Mason University

Philip Sanford Zeskind, Virginia Polytechnic Institute and State University

# TO THE STUDENT

# STRATEGIES FOR EFFECTIVE STUDY AND CRITICAL THINKING

Essentials of Understanding Psychology has been written with the reader in mind, and it therefore includes a number of unique features that will help you to maximize your learning of the concepts, theories, facts, and other kinds of information that make up the field of psychology. To take advantage of these features, there are several steps you should take when reading and studying this book. By following these steps, not only will you get the most out of this book, but you will also develop habits that will help you to study other texts more effectively and to think critically about material you are learning. Among the most important steps to follow:

■ Familiarize yourself with the logic of the book's structure. Begin by reading the Table of Contents. It provides an overview of the topics that will be covered and gives a sense of the way the various topics are interrelated. Next, review the Preface, which describes the book's major features. Keep in mind that each chapter is divided into three to five self-contained units; these provide logical starting and stopping points for reading and studying.

Note, also, the major highlights of each chapter: a chapter-opening outline, a Prologue, a Looking Ahead section that includes chapter questions, Recaps and Reviews of key information following each of the major units, and—at the end of every chapter—a Looking Back section and a list of Key Terms and Concepts. The Looking Back summary is organized around the questions posed in the Looking Ahead section at the beginning of the chapter, thereby tying the chapter's contents together.

Because every chapter is structured in this same way, the book provides a set of familiar landmarks to help you chart your way through new material. This structure will help you in organizing each chapter's concent.

■ Use a study strategy. Although we are expected to study and ultimately learn a wide range of material throughout our schooling, we are rarely taught any systematic strategies that permit us to study more effectively. Yet, just as we wouldn't expect a physician to learn human anatomy by trial and error, it is the unusual student who is able to stumble upon a truly effective studying strategy.

Psychologists, however, have devised several excellent (and proven) techniques for improving study skills, two of which are described here. By employing one of these procedures—known by the initials SQ3R and MURDER—you can increase your ability to learn and retain information and to think critically, not just in psychology classes but in all academic subjects.

The SQ3R method includes a series of five steps, having the initials S-Q-R-R-R. The first step is to *survey* the material by reading the chapter outlines, chap-

ter headings, figure captions, Recaps, and Looking Ahead and Looking Back sections, providing yourself with an overview of the major points of the chapter. The next step—the "Q" in the SQ3R—is to question. Formulate questions—either aloud or in writing—before actually reading a section of the material. For instance, if you had first surveyed this section of the book, you might jot down in the margin, "What do SQ3R and MURDER stand for?" The queries posed in the Looking Ahead sections and the Reviews that end each part of the chapter are also a good source of questions. But it is important not to rely on them entirely; making up your own questions is critical. Essentials of Understanding Psychology has wide margins in which you can write out your own questions. Such questioning helps you to focus in on the key points of the chapter, while putting you in an inquisitive frame of mind as well.

It is now time for the next, and most crucial, step: to *read* the material. Read carefully and, even more important, actively and critically. For instance, while you are reading, answer the questions you have asked yourself. You may find yourself coming up with new questions as you read along; that's fine, since it shows you are reading inquisitively and paying attention to the material. Critically evaluate material by considering the implications of what you are reading, thinking about possible exceptions and contradictions, and examining the assumptions that lie behind the assertions made by the author.

The next step—the second "R"—is the most unusual. This "R" stands for recite, in which you look up from the book and describe and explain to yourself, or to a friend, the material you have just read and answer the questions you have posed earlier. Do it aloud; this is one time when talking to yourself is nothing to be embarrassed about. The recitation process helps you to clearly identify your degree of understanding of the material you have just read. Moreover, psychological research has shown that communicating material to others, or reciting it aloud to yourself rather than a friend, assists you in learning it in a different—and deeper—way than material which you do not intend to communicate. Hence, your recitation of the material is a crucial link in the studying process.

The final "R" refers to review. As we discuss in Chapters 5 and 6, reviewing is a prerequisite to fully learning and remembering material you have studied. Look over the information; reread the Recaps and Looking Back summaries; answer in-text Review questions; and use any ancillary materials you may have available. (There is both a traditional and a computerized student *Study Guide* available to accompany *Essentials of Understanding Psychology*.) Reviewing should be an active process, in which you consider how different pieces of information fit together and develop a sense of the overall picture.

An alternative approach to studying—although not altogether dissimilar to SQ3R—is provided by the MURDER system of Dansereau (1978). Despite the deadly connotations of its title, the MURDER system is a useful study strategy.

In MURDER, the first step is to establish an appropriate *mood* for studying by setting goals for a study session and choosing a time and place in which you will not be distracted. Next comes reading for *understanding*, in which careful attention is paid to the meaning of the material being studied. *Recall* is an immediate attempt to recall the material from memory, without referring to the text. *Digesting* the material comes next; you should correct any recall errors, and attempt to organize and store newly learned material in memory.

You should work next on *expanding* (analyzing and evaluating) new material, and try to apply it to situations that go beyond the applications discussed in the text. By incorporating what you have learned into a larger information network in memory, you will be able to recall it more easily in the future. Finally, the last



step is *review*. Just as with the SQ3R system, MURDER suggests that the systematic review of material is a necessary condition for successful studying.

Both the SQ3R and MURDER systems provide a proven means of increasing your study effectiveness. It is not necessary, though, to feel tied to a particular strategy; you might want to combine other elements into your own study system. For example, learning tips and strategies for critical thinking will be presented throughout *Understanding Psychology*, such as in Chapter 6 when the use of mnemonics (memory techniques for organizing material to help its recall) is discussed. If these tactics help you to successfully master new material, stick with them.

The last aspect of studying that warrants mention is that *when* and *where* you study are in some ways as important as *how* you study. One of the truisms of the psychological literature is that we learn things better, and are able to recall them longer, when we study material in small chunks over several study sessions, rather than massing our study into one lengthy period. This implies that all-night studying just before a test is going to be less effective—and a lot more tiring—then employing a series of steady, regular study sessions.

In addition to carefully timing your studying, you should seek out a special location to study. It doesn't really matter where it is, as long as it has minimal distractions and is a place that you use *only* for studying. Identifying a special "territory" allows you to get in the right mood for study as soon as you begin.

### A FINAL COMMENT

By using the proven study strategies presented above, as well as by making use of the pedagogical tools integrated in the text, you will maximize your understanding of the material in this book and will master techniques that will help you learn and think critically in all your academic endeavors. More importantly, you will optimize your understanding of the field of psychology. It is worth the effort: The excitement, challenge, and promise that psychology holds for you are substantial.

# **CONTENTS IN BRIEF**

PREFACE		xiv
REVIEWER	RS	xix
TO THE S	TUDENT	XX
CHAPTER	INTRODUCTION TO PSYCHOLOGY	1
CHAPTER	2 THE BIOLOGY UNDERLYING BEHAVIOR	39
CHAPTER	3 SENSATION AND PERCEPTION	81
CHAPTER	4 STATES OF CONSCIOUSNESS	127
CHAPTER	5 LEARNING	163
CHAPTER	6 MEMORY	203
CHAPTER	7 COGNITION AND LEARNING	235
CHAPTER	8 INTELLIGENCE	267
CHAPTER	9 MOTIVATION AND EMOTION	293
CHAPTER	10 DEVELOPMENT	331
CHAPTER	11 PERSONALITY	379
CHAPTER	12 ABNORMAL BEHAVIOR	411
CHAPTER	13 TREATMENT OF ABNORMAL BEHAVIOR	453
CHAPTER	14 SOCIAL PSYCHOLOGY	487
CHAPTER	15 LIVING WITH OTHERS IN A DIVERSE WORLD	531
GLOSSAR	Υ	G-1
REFERENC	CES	R-1
INDEXES	Name Index	I-1
	Subject Index	I-12

# **CONTENTS**

PREFACE	xiv	Finding answers: Psychological research 22	
REVIEWERS	xix	Recap and Review III 32	
TO THE STUDENT	XX	Research Issues	32
	,,,,	The ethics of research 33	
TO PSYCHOLOGY	1	Threats to experiments: Experimenter and subject expectations 34	
Prologue: Flood!	2	The Informed Consumer of Psychology: Critical Thinkin	ıg
Looking Ahead	2	about Research 35	
The Study of Behavior and Mental Processes:		Recap and Review IV 36	
The Common Link among Psychologists	2	Looking Back	36
Psychologists at Work 4		Key Terms and Concepts	38
Biopsychologists: The biological foundations of psychology 4			
Experimental psychologists: Sensing, perceiving, learning, and thinking 5		CHAPTER 2 THE BIOLOGY UNDERLYING BEHAVIOR	39
Developmental and personality psychologists:		Prologue: Andrea Fyie	40
Understanding change and individual		Looking Ahead	40
differences 5		Neurons: The Elements of Behavior	42
Health, clinical, and counseling psychologists: Physical and mental health 6		The structure of the neuron 42	
Social, industrial-organizational, consumer, and		Firing the neuron 45	
cross-cultural psychologists: Understanding the		Recap and Review I 47	
social world 7		Where Neuron Meets Neuron: Bridging the Gap	47
Emerging areas 8		Varieties of neurotransmitters 49	
The Cutting Edge Psychology in Space 9		The Nervous System	52
Psychology's workplace 9		Neuronal architecture 52	
Recap and Review I 10		Central and peripheral nervous systems 53	
A Science Evolves: The Past and the Future	11	Activating the autonomic nervous system 55	
The roots of psychology 12		Recap and Review II 56	
Women in psychology: Founding mothers 14		The Brain	57
Contemporary models 14		Studying the structure and functions of the brain	57
The links between psychology's branches and		The central core: Our "old brain" 59	
models 16		The limbic system: Beyond the central core 61	
Psychology at Work Psychology and the Prevention of AIDS 17		The Cutting Edge Are Men's and Women's Brains Different? 62	
Psychology's future 18		Recap and Review III 63	
Recap and Review II 19		The cerebral cortex: Up the evolutionary ladder	64
Research in Psychology		The specialization of the hemispheres:	
Asking the right questions: Theories and hypotheses 21		Two brains or one? 69	
hypotheses 21		The split brain: Exploring the two hemispheres 7	1

Psychology at Work The Commercial Value of the Brain 72		The Informed Consumer of Psychology: Discovering and Treating Dyslexia 122	
Brain modules: The architecture of the brain,		Recap and Review V 124	
revisited 73		Looking Back	124
The Endocrine System: Of Chemicals and Glands	74	Key Terms and Concepts	126
The Informed Consumer of Psychology: Learning to Control Your Heart—and Brain—through Biofeedback 75		CHAPTER 4 STATES OF CONSCIOUSNESS	127
Recap and Review IV 76		Prologue: Ryan Shafer	128
Looking Back	77	Looking Ahead	128
Key Terms and Concepts	79	Sleep and Dreams	130
,		The cycles of sleep 131	
		Is sleep necessary? 134	
		Circadian rhythms: Life cycles 135	
CHAPTER 3 SENSATION AND PERCEPTION	81	The function and meaning of dreaming 136	
	82	The Cutting Edge Illuminating Circadian	
Prologue: Pete Townshend		Rhythms 137	
Looking Ahead	82	Daydreams: Dreams without sleep 140	
Sensing the World around Us	83	Sleep disturbances: Slumbering problems 142	
Absolute thresholds 85		The Informed Consumer of Psychology: Sleeping	
Signal detection theory 85		Better 142	
Just noticeable differences 86		Recap and Review I 143	
Sensory adaptation 87		Hypnosis and Meditation: Altered States of Consciousness	144
Recap and Review I 88  The Five + Senses	88	Hypnosis 144	
	00	A different state of consciousness? 145	
Vision: The eyes have it 89		Meditation: Regulating your own state	
Recap and Review II 98  The sense of sound and balance 99		of consciousness 147	
		Recap and Review II 148	
Psychology at Work Improving the Senses with Technology 103		Drug Use: The Highs and Lows of Consciousness	149
Smell, taste, and the skin senses 104		Stimulants: Drug highs 150	
The Cutting Edge Discovering the Origins of Food		Depressants: Drug lows 154	
Preferences 106		Psychology at Work The Sound of Intoxication 1:	56
Recap and Review III 108		Narcotics: Relieving pain and anxiety 157	
Making Sense of the World: Perception	108	Hallucinogens: Psychedelic drugs 157	
The Gestalt laws of organization 109		The Informed Consumer of Psychology: Identifying Dru	g
Feature analysis: Focusing on the parts of the whole 111		and Alcohol Problems 159  Recap and Review III 160	
Top-down and bottom-up processing 111		Looking Back	160
Perceptual constancy 113		Key Terms and Concepts	162
Depth perception: Translating 2-D to 3-D 114			
Motion perception: As the world turns 116			
Selective attention: Sorting out the world 116		CHAPTER 5 LEARNING	163
Recap and Review IV 119		Prologue: Brad Gabrielson and Bo	164
Perceptual Illusions	120	Looking Ahead	164
Visual illusions: Misperceptions of the eye 120		Classical Conditioning	166

The basics of conditioning 166		Looking Back	200
Applying conditioning principles to human behavior 169		Key Terms and Concepts	201
Extinction: Unlearning what you have learned 1	69		
Spontaneous recovery: The return of the conditioned response 170		CHAPTER 6 MEMORY	203
Generalization and discrimination 170		Prologue: Pamilla Smith	204
Higher-order conditioning 171		Looking Ahead	204
Beyond traditional classical conditioning: Challenging basic assumptions 172		Encoding, Storage, and Retrieval of Memory	205
Challenging basic assumptions 172  Recap and Review I 174		The three stages of memory: Memory storehouses	206
Operant Conditioning	175	The Cutting Edge Implicit Memory: Retention without Remembering 213	
Thorndike's law of effect 175	173	Levels of processing 214	
The basics of operant conditioning 176		Recap and Review I 215	
Psychology at Work Saving Lives with Operant		Recalling Long-Term Memories	216
Conditioning: Dolphin Defenses and Pigeon		Flashbulb memories 217	
Posses 178 Positive reinforcers, negative reinforcers, and		Constructive processes in memory: Rebuilding the past 219	
punishment 178		Psychology at Work Memory on Trial:	
The pros and cons of punishment: Why reinforcement beats punishment 180		The Fallibility of Witnesses 221 Autobiographical memory: Where past	
Recap and Review II 181		meets present 222	
Schedules of reinforcement: Timing life's rewards 182		Everyday memory: Different in the laboratory?	223
Discrimination and generalization in operant		Recap and Review II 224	
conditioning 185		Forgetting: When Memory Fails	224
Superstitious behavior 185		Proactive and retroactive interference:  The before and after of forgetting 226	
Shaping: Reinforcing what doesn't come naturally 186		The biological bases of memory: The search for the engram 227	
Using programmed instruction in college classes: Programs as professors 187			228
Discriminating between classical and operant conditioning 188		The Informed Consumer of Psychology: Improving Your Memory 230	
The Cutting Edge Learning like Humans: Building		Recap and Review III 232	
Neural Networks via Computer 189		Looking Back	233
Biological constraints on learning: You can't teach an old dog just any trick 190		Key Terms and Concepts	234
Recap and Review III 191			
Cognitive Approaches to Learning	191	CHAPTER 7 COGNITION AND LANGUAGE	235
Rule-learning in animals 194		Prologue: Rescue in Space	236
Observational learning: Learning through		Looking Ahead	236
copying 194		Thinking and Reasoning	237
Learned helplessness: Accepting the unacceptable 196		Thinking 237	237
The unresolved controversy of cognitive learning		Concepts: Categorizing the world 238	
theory 196		Decision making 238	
The Informed Consumer of Psychology: Using Behavior Analysis and Behavior Modification 197		The Cutting Edge Thinking Too Much? When Tho Leads to Poor Decisions 243	ught
Recap and Review IV 199		Recap and Review I 244	