

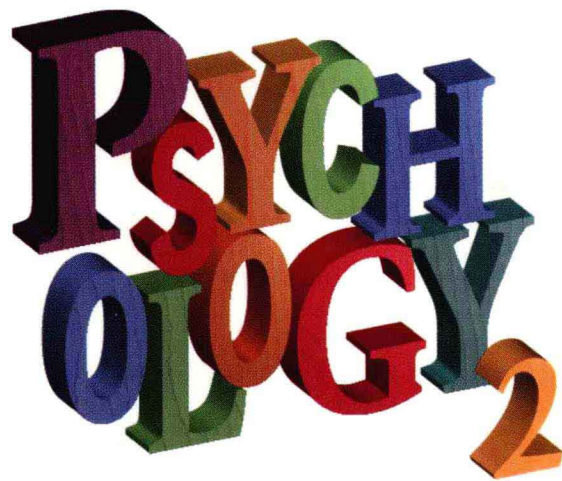
Psychology 2



DAVIS ♦ PALLADINO

SECOND EDITION

PSYCHOLOGY



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PRENTICE HALL, Upper Saddle River, New Jersey 07458

Library of Congress Cataloging-in-Publication Data

Davis, Stephen F.

Psychology / Stephen F. Davis, Joseph H. Palladino—2nd ed.

p. cm.

Includes bibliographical references and indexes.

ISBN 0-13-253907-1

I. Psychology. I. Palladino, Joseph J. II. Title.

BF121.D35 1996

150—dc20

96-20138

CIP

TO Kathleen and Jennifer Marie, Karin Marie, and Sharin Marie

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Electronic Page Layout: *PH Formatting*

Electronic Art Creation: *PH Formatting, Vantage Art, Inc.*

Marketing Team: *Gina Sluss, Aileen Ugural*

Acknowledgments appear on pp. 749-752, which constitutes a continuation of the copyright page.



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Simon & Schuster/A Viacom Company

Upper Saddle River, NJ 07458

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Printed in the United States of America

10 9 8 7 6 5 4

ISBN 0-13-253907-1 (student version)

ISBN 0-13-268145-5 (professional version)

Prentice-Hall International (UK) Limited, *London*

Prentice-Hall of Australia Pty. Limited, *Sydney*

Prentice-Hall Canada Inc., *Toronto*

Prentice-Hall Hispanoamericana, S.A., *Mexico*

Prentice-Hall of India Private Limited, *New Delhi*

Prentice-Hall of Japan, Inc., *Tokyo*

Simon & Schuster Asia Pte. Ltd., *Singapore*

Editora Prentice-Hall do Brasil, Ltda., *Rio de Janeiro*

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Steve's teaching abilities have drawn acclaim on the national level. In 1988 he received the National Distinguished Teaching Psychology Award from the American Psychological Foundation. He was awarded the Teaching Excellence Award from Division Two (Teaching of Psychology) of the American Psychological Association in 1989. His professional accomplishments also include serving as president of the Southwestern Psychological Association, the Southern Society for Philosophy and Psychology, and Division Two of the American Psychological Association. He recently served as the National President of Psi Chi (the national honor society in psychology). He has been elected as a Fellow of the American Psychological Association, the American Psychological Society, and the American Association of Applied and Preventive Psychology.

JOSEPH J. PALLADINO (right) is Professor of Psychology at the University of Southern Indiana in Evansville, Indiana. He received all his academic degrees from Fordham University, including the Ph.D. in general-theoretical psychology. His numerous articles and presentations have covered topics such as sleep and dreams, the death penalty, extra-credit opportunities, teaching methods, and ways of encouraging research by undergraduate students.

Joe founded the Mid-America Undergraduate Psychology Research Conference in 1982. The Mid-America Conference for Teachers of Psychology, which he founded in 1984, has become the model for regional teaching conferences across the country. His contribution to the continuing education of teachers was recognized by the Faculty Service Award presented by the National University Continuing Education Association in 1991. In 1990 he received the Teaching Excellence Award from Division Two (Teaching of Psychology) of the American Psychological Association. He was elected to Fellow status in the American Psychological Association in 1989 and served as the president of Division Two in 1991–1992. He has also served Division Two as a consulting editor and the methods and techniques editor of Teaching of Psychology. As chair of the Division Two Program Committee, he implemented widely copied sessions such as the “Live From . . .” series, in which faculty present demonstrations for introductory psychology classes.

PREFACE

When we sat down to write the first edition of this text, we started out with the premise that introductory psychology may be the only psychology course your students ever take. With that in mind, we set out to write a text that would make the beginning psychology course an engaging, relevant, and interactive experience. Regardless of how many more psychology courses they take, we hope *all* your students will come away with an appreciation and understanding of the wide variety of behaviors they witness in their everyday lives.

Between the two of us, we have taught introductory psychology for almost 50 years. Our experience has taught us that students would rather be “talked with” than “talked to.” As a result, we hope that as students read this book they will have the feeling that they are engaging in a conversation with us. We have also attempted to convey the excitement and love of psychology that we hope characterize our own lectures. Throughout our text we have combined classic and contemporary research in describing the multifaceted nature of our field. We have provided appropriate contemporary references in support of our discussion, but we have not neglected the historical work that forms the backbone of our discipline.

THEMES OF THE SECOND EDITION

As we planned this revision, we kept several key themes in mind. First, we believe that psychology has much to offer individuals, groups, and society as a whole. Psychology is a dynamic and ever-changing discipline that is constantly seeking new ways to apply the knowledge gained from research. Hence, one theme of this text is the wide range of **practical applications** of psychological research.

Second, we believe that it is extremely important for students to learn about the various methods used by psychologists to answer the questions they pose. We believe that a thorough understanding of **research methods** will make students better consumers of psychological information. Therefore, we have taken special care to delve into the whys and hows of research methods. Throughout the text, we examine research methods and the validity of the conclusions drawn from research. For instructors who wish their students to examine

research methods in greater depth, an appendix on Statistics and Psychology is included after Chapter 16.

Third, we have tried to put the material we discuss into **historical perspective**. We believe that the history of psychology is best understood when it is integrated into the discussion of key topics throughout the text. As you use this text, you will find that we discuss topics such as the discovery and function of neurons, the development of phobias, and the concept of stress in historical context.

Finally, throughout the book we have paid careful attention to the issue of **human diversity**. We are convinced that a multicultural perspective is an integral part of the day-to-day work of psychologists and that the findings of cross-cultural research have wide-ranging significance. For these reasons we have included topics related to diversity in the text itself wherever appropriate, rather than relegating them to boxes or vignettes. Some examples are found in Chapter 4 (the effects of culture on emotional expression), Chapter 11 (cross-cultural perspectives on life-span development), and Chapter 15 (ethnic factors in psychotherapy and drug treatment). Similar discussions appear throughout the text.

To integrate these themes into the text, we have incorporated numerous special features—which are described in some detail later in the Preface—and have worked diligently with the staff at Prentice Hall to create a text design that is consistent with our goals. We have tried to make each paragraph and section flow into the next without interruptions. Because students usually see boxed material as peripheral and often do not read it, there are no “boxes” to disrupt the flow of the text or distract the reader.

PHILOSOPHY OF THE SECOND EDITION

When we wrote the first edition our goal was to create an accessible text: one that was easy to follow, applied the material to real-life situations, and incorporated useful pedagogical features. Moreover, we wanted a seamless design rather than one that was constantly broken up by boxes that we knew students would not read. We carried over these goals to the second edition. In addition, we paid careful attention to feedback from professors and students, including our own students. Consequently, we have revised material that

might have been unclear and have added examples where they were needed. Overall, the second edition is clean, sharp, and inviting. The Study Charts are better organized and easier to follow. The illustration program was carefully reviewed and revised; in some cases, new art was incorporated, and in other cases a bit of fine tuning improved already effective figures. Perhaps the most significant change in the second edition is the introduction of an entire chapter (Chapter 4) on emotion. This chapter reflects the growing research on this topic and illustrates early on the multifactorial nature of psychological processes.

ORGANIZATION OF THE SECOND EDITION

As we examined the numerous introductory psychology textbooks available to instructors, we decided that the most effective approach is to include relatively few chapters while providing an interactive framework, numerous illustrations, and pedagogical aids designed to help students study and review material as they progress through each chapter. The 16 chapters of this text follow the sequence that has become standard in introductory psychology textbooks, beginning with the nature of psychology and its biological foundations and ending with maladaptive behaviors, therapy, and social psychology. One chapter not always found in other texts is Chapter 12, Sex and Gender. We believe that this topic is important enough in today's world to warrant an entire chapter.

The major organizational change in the second edition is the inclusion of the new chapter on emotion (Chapter 4). Because research in this area is expanding so rapidly, the topic merits more complete coverage than it can receive in a combined motivation/emotion chapter. The motivation material previously covered in the combined chapter has been integrated in its entirety in other appropriate chapters. We have placed the new chapter early in the text for two reasons. First, we consider emotion to be a basic process that merits early attention. Second, the examination of emotion provides an effective case study showing the interaction of biological, cognitive, and sociocultural factors, which is especially important following the heavily biological discussions in Chapters 2 and 3. Chapter 4 also explores such fascinating topics as cross-cultural research on the expression of emotion, nonverbal behavior, attempts to detect deception, and emotional intelligence.

CHANGES IN THE SECOND EDITION

In preparing the second edition we enhanced our coverage of several key topics and also introduced relevant and exciting new material. A chapter-by-chapter list of key changes follows.

Chapter 1

- We have broadened and updated our discussion of the contributions of women and members of ethnic minorities to the discipline.
- We have expanded our discussion of the physiological and cognitive perspectives.
- The controversies surrounding animal experimentation are covered in greater detail.

Chapter 2

- Material on biological motivations previously in the motivation chapter has been integrated into this chapter.
- We have added material describing the interests of various types of psychologists in human physiology.
- An expanded table offers additional information on the locations and functions of neurotransmitters.

Chapter 3

- We have added a discussion of the kinesthetic sense.
- The chapter contains a broader discussion of perceptual illusions and updated information on paranormal phenomena.

Chapter 4

- An entire chapter is now devoted to emotion. (See our discussion on this page.)

Chapter 5

- New material on REM sleep behavior disorder and recent findings on SIDS have been added.
- The chapter now contains a Study Chart on sleep disorders, a questionnaire based on the Alcohol Use Disorders Identification Test (AUDIT), and a revised table of major psychoactive drugs.

Chapter 6

- The basic organizational structure has remained the same; the graphic material has been carefully reviewed and revised to facilitate student comprehension.

Chapter 7

- The chapter contains a broader examination of working memory and the repressed memory controversy.

Chapter 8

- The material on language has been expanded, and a discussion of American Sign Language has been added.
- A discussion of Claude Steele's stereotype vulnerability hypothesis has been added to the section on intelligence.
- We have added a full-page table of sample items from the Wechsler Scale.

Chapter 9

- The chapter has been extensively revised and reorganized; the material on coping with stress is now located at the end of the chapter.
- The section on AIDS (moved from Chapter 11) has been greatly expanded to include new material on who contracts AIDS and how, as well as on the typical course of HIV infection.

Chapter 10

- The chapter contains a new section on growing up in troubled areas and an expanded section on attachment and the role of the father.
- We have added a discussion of gay and lesbian couples and parenting.

Chapter 11

- The chapter contains expanded coverage of family influences on adolescents, seeking a commitment, and cross-cultural parenting practices.

Chapter 12

- We have expanded our discussion of similarities and differences between males and females to reflect the most current research, particularly biological research.

Chapter 13

- The material on biological factors in personality has been streamlined with increased focus on more recent approaches, supplemented by a new figure.
- The coverage of the Sensation Seeking Scale has been moved to this chapter from Chapter 8.
- Defense mechanisms are now covered in a table for easy access, including definitions and examples.

Chapter 14

- The DSM-IV terminology and diagnostic criteria have been completely integrated throughout the chapter.
- Prevalence data now include information from the National Comorbidity Survey as well as a discussion of the concept of comorbidity.
- Symptoms of schizophrenia are now organized under the headings of positive and negative symptoms.
- A new figure helps illustrate the role of genetic factors in the etiology of mood disorders.

Chapter 15

- The chapter contains new data on the theoretical backgrounds of therapists as well as data on the number of people who seek treatment.
- We have added coverage of ethnic and gender factors in drug therapy and have expanded our coverage of group therapy.
- An extensive table summarizes the major drugs used to treat psychological disorders.

Chapter 16

- The graphic material has been carefully reviewed and revised for greater clarity.
- The chapter contains a new section on the components of attitudes.

PEDAGOGICAL AIDS

In developing this book we have created a variety of pedagogical aids that will make the study of psychology more interesting and effective for your students. These are described briefly here and illustrated in the special “walkthrough” section following this preface.

Chapter in Perspective Each chapter begins with a brief discussion of how the material covered in the chapter fits with the “big picture.” We show students how chapters build on one another and fit together to create a more complete understanding of behavior as we progress from the chapters that emphasize the more basic processes to those that deal with more complex behaviors.

Applying Psychology Each chapter includes a special section that shows psychology at work in the real world. This section is designed to help your students appreciate the place of psychology in everyday life. By making this a vital and integrated element of the text, we reinforce the idea that applications of psychology flow directly from the material itself and are not an afterthought.

Myth or Science In each chapter we have highlighted paragraphs in which we compare the findings of psychological research with widely held popular notions. These discussions should help your students evaluate the claims made in “pop psych” writings.

Psychological Detective Several times within each chapter the reader is asked to consider a question or questions about the topic under discussion. The question may deal with issues such as research ethics, how to conduct research, or the importance of a particular research finding. The reader is asked to supply an answer to the question before reading further.

Review Summaries and Study Breaks Each chapter contains several Review Summaries, each of which is followed by a Study Break. Because a basic pedagogical principle tells us that students learn best when they learn small chunks of information, these summaries should help students master the material. They can then use the Study Breaks to test their mastery of the material they have just reviewed and to prepare for quizzes and exams.

Hands On In keeping with the interactive, hands-on emphasis that distinguishes this text, each chapter also

features a questionnaire or a similar interactive exercise, identified by a small “hand” symbol. These questionnaires and exercises bring your students into direct contact with the material presented in the chapter.

Marginal Definitions The definition of each key term is presented in the margin on the page where the term is introduced. Because so much of the terminology will be new to your students, we believe it is important to provide instant access to these definitions.

Looking Ahead Each chapter ends with a Looking Ahead section that serves as a bridge from one chapter to the next. In addition, it helps students organize and synthesize the material they have studied in the individual chapters into a broader picture of the nature of psychology.

MULTIMEDIA, INTERNET, AND THE WORLD WIDE WEB

In keeping with recent advances in technology, Prentice Hall has assembled an impressive collection of multimedia and interactive products for instructors and students. For the first time, *Psychology, Second Edition* has its own World Wide Web site, accessible at the Prentice Hall Psychology site:

<http://www.prenhall.com/~psychmap>

Website visitors will find a range of interactive resources, including the following:

- 1. Free Interactive Study Guide** Students can access the complete content of the study guide, which contains chapter outlines, learning objectives, practice tests, and guided reviews.
- 2. Virtual Discussion Group/Chat Area** Students will have access to a special area that will enable them to communicate with other users of *Psychology, Second Edition* throughout the country. Discussions will focus around “Psychological Detective” critical thinking questions and activities provided by the authors that will be associated with specific topics in the text.
- 3. Related Links and Resources** URL listings, coordinated to each chapter of *Psychology, Second Edition*, provide links to related information elsewhere on the Web.
- 4. Interactions (Instructor’s Area)** Registered instructors will have private access to the kinds of demonstrations, lecture enhancers, and research updates provided in the companion newsletter *Interactions*, which is exclusive to Davis/Palladino and is described in more detail under “Ancillary Program for Instructors.”



“Psychology2” CD-ROM for Students An exciting new multimedia companion version of *Psychology, Second Edition* is available as a stand-alone textbook replacement or for use as a supplemental learning aid for students. *Psychology2* features the full content of the textbook, plus an interactive study guide and a wealth of multimedia teaching and learning devices.

Digital Resource Library CD-ROM for Instructors Instructors can now apply the latest multimedia to their lectures. Built around a comprehensive image, animation, and digital video library, the centerpiece of the Digital Resource Library is Prentice Hall’s popular Presentation Manager software that allows instructors to assemble and sequence digital video segments, interactive animations, digital transparencies, and their own lecture notes in computer-driven lectures.

PSYCHActivities Software (for MS.DOS and Macintosh systems) PSYCHActivities offers brief and entertaining activities, demonstrations, and game shows through which students can participate in recreating psychological principles and concepts. The game shows use a familiar and fun format to test students’ general knowledge of content in many subfields of the discipline. They can be played by one or two students.

Computer Simulations David Pittenger and Jay Allen created 15 interactive programs that simulate experiments and demonstrations that reinforce common areas taught in introductory psychology. They are available on disk for IBM and Macintosh computers.

Behavior Modification Software: The World of Sidney Slug and His Friends This computer simulation game is designed to teach students basic behavioral principles and techniques and help them understand how behavior can be managed and modified effectively. The program allows students to actually modify the behavior of Sidney Slug and his friends

while it offers on-line advice, periodic evaluation of input, and feedback. (Prentice Hall offers the program free upon adoption of *Psychology, Second Edition*.) Anyone wishing to purchase the software directly from the authors can do so through Associates in Analysis of Behavior, c/o Loren Acker, Ph.D., #16-2330 Harbor Road, Sidney, B.C., Canada V8L 2P8, Tel. (604) 721-7526.

ANCILLARY PROGRAM FOR INSTRUCTORS

We are excited about the quality and variety of the supplementary items that we make available to instructors who adopt *Psychology, Second Edition*.

Instructor's Resource Manual We believe that you will find a wealth of helpful information and other resources in the Instructor's Manual written by Traci Giuliano (Southwestern University) and Alan Swinkels (St. Edward's University). These experienced teachers bring a number of innovative ideas to the IM for our second edition, including expanded "Lecture Enhancers" as well as demonstrations and activities and student assignments. In addition, each chapter contains a list of relevant Prentice Hall video and multimedia resources, transparencies, and outside resources. Finally, the manual offers a number of cross-cultural and multicultural resources and teaching ideas for each chapter.

Test Bank The test bank for the second edition has been thoroughly revised and expanded by one of the authors, Joseph Palladino, with Matthew Huss of the University of Nebraska, Lincoln. Every item was carefully reviewed by Davis, Palladino, and Huss. Items are now coded as either definitional/factual or applied/conceptual. The number of applied/conceptual items has been increased substantially.

Interactions One of the innovations associated with the first edition is our quarterly newsletter, *Interactions*. This newsletter provides research updates, lecture enhancers, demonstrations, and a column called "Teaching Issues," which has covered topics such as cheating, extra credit, and legal issues in grading. Each feature is tied to chapters and pages in the text and is written so the material can be incorporated into your class presentations. *Interactions* is published in the summer/fall (16-page double issue), winter, and spring; the issues can be added to the Instructor's Manual.

Prentice Hall Custom Test *Psychology, Second Edition* is now accompanied by the best-selling test-generating software on the market. The software runs on IBM (DOS and Windows), Macintosh, and Apple IIe. It contains the following modules:

- **GRADE:** Gradebook
- **GUIDE:** Tutoring system
- **PAINT:** Creates graphical artwork and illustrations
- **On-Line Network Testing:** Tests are created through the custom-test software, administered through On-Line Testing, and then transferred to the gradebook for evaluation.

Prentice Hall Transparencies for Introductory Psychology Add visual impact to the study of psychology with our collections of four-color transparencies. Designed in a large-type format for lecture settings, many of these quality illustrations are not found in the text and offer a wealth of additional resources to enhance lectures and reinforce student learning.

Teaching Psychology, 2/E

Fred W. Whitford, Montana State University

Teaching Psychology serves as a guide for new instructors or teaching assistants in introductory psychology to manage the myriad complex tasks required to teach effectively from the start.

Handout and Transparency Masters Engaging your students and stimulating classroom discussion are easier with these two sets of over 30 questionnaires, activities, and visual aids. Whether they are reproduced as handouts or overhead transparencies, the masters can be used effectively to help students see connections between the text's concepts and their own lives.

Critical Thinking Resource Manual The *Critical Thinking Resource Manual* offers intriguing questions, exercises, and activities for each of the major topics of the introductory course. It is divided into three types of resources: questions, exercises, and extended activities, presenting scenarios from the student perspective. The format facilitates copying and use as class handouts. Also available in class quantities for students, shrinkwrapped to the text.

NEWS ABC News/Prentice Hall Video Library Prentice Hall has assembled a collection of feature segments from award-winning news programs. The following libraries are currently available to qualified adopters:

- **Themes in Psychology** *Themes in Psychology* consists of segments from such programs as "Nightline," "20/20," "Prime Time Live," and "The Health Show." A summary and questions, designed to stimulate critical thinking for each segment, are included in the Instructor's Resource Manual.
- **Issues in Psychology** *Issues in Psychology* presents additional segments from ABC News pro-

grams, providing a contemporary look at stress, therapy, depression, prejudice and discrimination, violence and aggression, and gender.

- Abnormal and clinical psychology
- Social psychology
- Life-span development

The Alliance Series: The Annenberg/CPB Collection The Alliance Series is the most extensive collection of professionally produced videos available with any introductory psychology textbook. Selections include videos in the following Annenberg series: *The Brain*, *The Brain Teaching Modules*, *Discovering Psychology*, *The Mind*, and *The Mind Teaching Modules*. Available to qualified adopters.

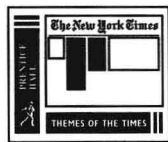
Two Laser Discs Supplement your lectures with *LaserPSYCH*, a two-sided programmable laser disk for introductory psychology. It contains over 500 full-color frames of figures, charts, graphs, definitions, photographs, and demonstrations, all supporting core concepts in the discipline. *LaserPSYCH* also features 60 minutes of exclusive ABC News programming on current issues in psychology and segments on classic research studies. An auxiliary laser disc, with video clips from historical footage as well as lecture segments from a variety of sources, is also available. Both disks are available to qualified adopters.

ANCILLARY PROGRAM FOR STUDENTS

We also provide a number of valuable ancillaries for students.

Student Study Guide A study guide to accompany this text was written by Steve Schneider of Pima Community College. Designed with a new, more visual format, it incorporates illustration-based activities. Each chapter opens with a "Do You Know" section that piques students' interest by providing them with interesting facts from the chapter. Each chapter also contains learning objectives and practice tests.

Psychology on the Internet: A Student Guide A hands-on Internet tutorial that features web sites related to psychology. Designed to enhance the effectiveness of the textbook, it helps students capitalize on all the resources that the Internet and World Wide Web have to offer.



The New York Times Supplement

The core subject matter provided in the text is supplemented by a collection of time-sensitive articles from one of the world's most distinguished

newspapers, *The New York Times*. Also included are discussion and critical thinking questions that relate

psychological perspectives and topics in the text to issues in the articles.

The Prentice Hall Critical Thinking Audio Study Cassette Tape The first 50 minutes of this cassette concentrate on critical thinking skills, specifically how to ask the right questions. The final 10 minutes offer helpful tips on how to study, take notes, and become a more active, effective learner.

A Guide to the Brain: A Graphic Workbook, Second Edition

Mark B. Kristal, *SUNY at Buffalo*

This study aid helps students learn the names and locations of the most important structures and functions of the brain and nervous system. The Second Edition offers more review exercises, expanded figures, and brief concept summaries. Also available in full-color digital format at our website.

Forty Studies That Changed Psychology: Explorations into the History of Psychological Research, Second Edition

Roger Hock, *New England College*

Presenting the seminal research studies that have shaped modern psychological study, this supplementary reader provides an overview of the research, its findings, and the impact these findings have had on current thinking in the discipline. A special combination package with the text is available.

How to Think Like a Psychologist

Donald H. McBurney, *University of Pittsburgh*

This unique supplementary text uses a question-and-answer format to explore some of the most common questions students ask about psychology.

Value Pack Shrinkwraps All of the above items can be combined with the textbook in a value-priced shrinkwrapped package. Contact your local Prentice Hall representative for details.

ACKNOWLEDGMENTS

No textbook is the product of the authors' efforts alone. In preparing *Psychology, Second Edition* we have benefited from the insights of many colleagues in the discipline. We would like to express our thanks to the following individuals, who reviewed the text for the second edition.

Ross Buck, University of Connecticut
Betty Dorr, Fort Lewis College
Karen E. Ford, Mesa State College
Tracey Geer, University of Arizona
Judith Gibbons, St. Louis University
Nuria Giral, University of Arizona

Bernice B. Harshberger, Carteret Community College
Ted Jaeger, Westminster College
Laurie L. Jensen, Northern State University
Salvador Macias III, USC—Sumter
Tom Marsh, Pitt Community College
Retta E. Poe, Western Kentucky University
Craig A. Smith, Vanderbilt University
Christopher Taylor, University of Arizona
Robert A. Wexler, Nassau Community College
Gordon Lee Whitman, Sandhills Community College

In addition, the following individuals reviewed numerous drafts of chapters and, in some cases, the completed manuscript of the first edition.

Ruth L. Ault, Davidson College, NC
William A. Barnard, University of Northern Colorado, CO
Barney Beins, Ithaca College, NY
Joy L. Berrenberg, University of Colorado at Denver, CO
Amy D. Bertelson, Washington University, MO
Deborah L. Best, Wake Forest University, NC
Michael Best, Southern Methodist University, TX
Jeanine R. Bloyd, Spoon River College, IL
Charles Brewer, Furman University, SC
Ronald Comer, Princeton University, NJ
Gary Coover, Northern Illinois University, IL
Catharine L. Cowan, Southwest State University, MN
Michael Crabtree, Washington and Jefferson College, PA
W.A. Cronin-Hillix, San Diego State University, CA
Robert Emmons, University of California—Davis, CA
Roberta A. Eveslage, Johnson County Community College, KS
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Peter J. Giordano, Belmont University, TN
John Governale, Clark College, WA
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Eva D. Vaughan, University of Pittsburgh, PA
Wilse Webb, University of Florida—Gainesville, FL
Patrick S. Williams, University of Houston—Downtown, TX
Otto Zinser, East Tennessee State University, TN

The editorial team at Prentice Hall deserves special praise. We would like to thank Editor in Chief Pete Janzow, Development Editor Bob Weiss, Production Editor Shelly Kupperman, and Assistants Marilyn Coco and Aileen Ugural. We would also like to thank Lori Clinton, Supervisor of Production Services, and our in-house formatting team: Mirella Signoretto, Rosemary Ross, Joh Lisa, and Maria Piper. Thanks to all!

Finally, we express our deepest appreciation to our own teachers. Among them we count Anne Anastasi, Virginia Chancey, David Landrigan, Wayne Ludwigson, Alvin North, and Jack R. Strange. Special thanks to “The Teacher of Teachers,” Bob Daniel.

S.F.D.
J.J.P.

A Note to the Student

The learning aids included in each chapter of this text are designed to encourage you to become an active participant in the learning process. In this introductory guide we describe each element and provide an example from the text. If you take the time to work with each of these learning tools, your mastery of the material in the chapter will improve dramatically.

BASIC PRINCIPLES OF LEARNING

What Is Learning?

Classical Conditioning

Pavlov and the Elements of Classical Conditioning
Phobias

John Watson, Little Albert, and the Ethics of Research

Pleasant Unconditioned Stimuli

Other Aspects of Classical Conditioning
Classical Conditioning and Our Motives
New Directions in Classical Conditioning

Taste-Aversion Learning and Preparedness

Operant Conditioning

Reinforcers

B. F. Skinner and the "Skinner Box"
Shaping

Schedules of Reinforcement

The Role of Cognition

Punishment: The Opposite of Reinforcement

Extinction

The Partial Reinforcement Effect
Operant Conditioning and Stimulus Control

Observational Learning

Behavior Modification

CHAPTER OUTLINE

Before you start reading a chapter, take a moment to scan the chapter outline. This listing of the main heads and subheads in the chapter will orient you and give you an idea of the major topics that will be covered in the chapter.

THE PHYSIOLOGICAL COMPONENTS OF EMOTIONS

One Saturday night, 14-year-old Matilda Crabtree planned to go to her friend's house to spend the night; her dad and mom were going to visit friends. When Matilda's parents returned home at about 1 A.M., they heard noises and suspected they had caught a burglar in the act. They did not know that Matilda and her friend had decided to return home and were making noises as they hid in a closet ready to spring a practical joke. Bobby Crabtree picked up his pistol and walked cautiously toward Matilda's bedroom. As he entered the room, Matilda jumped out of the closet and yelled, "Boo!" A shot rang out; a bullet lodged in Matilda's neck. Her last words to her father were "I love you, Daddy." She died about 12 hours later. In an instant, fear mobilized Bobby Crabtree for actions meant to protect himself and his family. Thousands of years of evolution had prepared him for a rapid response. In the split second he will remember the rest of his life, he did not have time to recognize his daughter's voice (Nossiter, 1994).

? What brain circuits are involved when we react instantly to events such as our suspicions that a burglar might be in the house.

SECTION OPENING VIGNETTES AND FOCUS QUESTIONS

Each major section opens with a brief vignette or scene followed by a question in bold type. After reading the vignette and question, stop and think for a moment about the situation described. This will help you focus more clearly on the material discussed in the section.

PSYCHOLOGICAL DETECTIVE

Whether or not we realize it, shaping techniques have been used to help us acquire many new behaviors. Think about behaviors such as talking, writing, driving a car, and even thinking. These behaviors were gradually shaped and perfected through the appropriate delivery of reinforcers. Remember when you learned to drive? How were your driving skills when you first started driving? How are they now? In which ways were those skills shaped? Recall these behaviors and events, and relate them to our discussion of operant conditioning before you read any further.

PSYCHOLOGICAL DETECTIVE

At intervals throughout the chapter you will see a paragraph set off from the text and labeled "Psychological Detective." These deal with such issues as research ethics, the design of research studies, and the importance of research results. They are designed to help you develop your critical thinking skills. Stop and see if you can answer the questions raised before reading.

MYTH OR SCIENCE?

In this book we emphasize that psychology is a science. However, myths about psychological phenomena abound and are often accepted without question. Paragraphs labeled "Myth or Science" call your attention to some of these myths and show how psychological research has disproved them or, in some cases, shown them to be true.

MYTH SCIENCE

The application of electrodes to a person's skull to induce a seizure as a form of therapy has been controversial. Critics question the treatment because it looks like punishment; they also wonder if ECT damages the brain. Earlier research could not provide definitive answers to questions about the effects of ECT on the brain because researchers often did not have data on the condition of the patient's brain before ECT was administered. They have now obtained magnetic resonance images (MRIs) before and after administration of bilateral ECT. Comparison of these images reveals no evidence of changes in the brain a few days or 6 months after the treatment (Coffey et al., 1991). Although this finding is encouraging, it cannot tell us whether ECT causes subtle changes that are not detectable by the MRI.

opioids

Drugs that reduce pain

hallucinogen

Drugs that can cause changes in perceptions such as hallucinations

lysergic acid diethylamide (LSD)

Powerful hallucinogen derived from the ergot fungus found on rye

smoker's vicinity. We discuss the health problems associated with smoking in more detail in Chapter 9.

OPIOIDS

The **opioids** are a group of naturally occurring and synthetic drugs (see the discussion of opioid peptides in Chapter 2). *Opium* is derived from the unripe seedpod of the poppy plant; it may have been used as early as the Stone Age. Today the primary medical uses of opioids are pain relief (analgesia), relief of coughing, and treatment of diarrhea. Two of the drugs derived from opium are morphine and codeine (Julien, 1995); of the two, morphine is the more

MARGIN DEFINITIONS

Key terms are defined in the margin at the point where they are first used. Take the time to read the definitions as you go along; they will help you learn the meanings of psychological terms right from the start.

Review Summary

1. **Anxiety** may involve behavioral, cognitive, and physiological elements. Phobias are excessive, irrational fears of activities, objects, or situations. The most frequently diagnosed phobia is **agoraphobia**. The DSM-IV also lists **social phobia** and **specific phobia**. Classical conditioning and modeling have been offered as explanations for the development of phobias.

2. Frequent panic attacks (which resemble heart attacks) are the main symptom of **panic disorder**. Biological and cognitive explanations for this disorder have been proposed. A person with a chronically high level of anxiety may suffer from **generalized anxiety disorder**.

3. Most individuals who have the diagnosis of **obsessive-compulsive disorder** have both obsessions and

compulsions. Obsessions are senseless images, or impulses that occur repeatedly, often accompanied by compulsions, visible, repeatable, and often socially unacceptable, repetitive acts. Low levels of elevated activity in the frontal lobes and have been proposed as possible causes.

4. **Somatoform disorders** involve the presence of physical symptoms that have no medical causes, but psychological factors are involved. Among these disorders are **hypochondriasis**, **somatization disorder**, and **conversion disorder**. People with hypochondriasis present physical symptoms that they believe reflect a serious disease; individuals with somatization disorder present a range of unrelated symptoms. Conversion disorders may involve anatomically

REVIEW SUMMARIES

Each chapter contains three or four brief Review Summaries that will help you learn the material in "chunks" as you go along.

STUDY BREAKS

Each Review Summary is followed by a brief quiz that you can use to test your knowledge.

STUDY BREAK

1. Identify the most likely diagnosis for each of the following conditions.

- Every day, Omar thinks about hurting a family member. These thoughts are so repulsive that each time they occur, he immediately begins counting backward from 100.
- Maria's 12 different physical symptoms don't reflect any disease her physician has ever seen.
- A week after reporting for military duty, Brad cannot use his arm to fire a gun. Medical causes have been ruled out.
- Police found Evan wandering downtown. They used a missing persons report to identify him

because Evan did not know his name or where he lived.

- Ivan keeps track of bodily changes by charting them on the refrigerator door. He is sure that several of these changes indicate a very serious illness, although physicians have found nothing medically wrong with him.
2. What is the difference between an obsession and a compulsion?
3. Psychophysiological disorders are likely to affect parts of the body controlled by which part of the nervous system? Somatoform disorders are likely to be found in parts of the body controlled by which part of the nervous system?

STUDY CHART

Major Structures of the Brain

Structure	Location	Function
Medulla	Hindbrain	Controls autonomic responses such as breathing, swallowing, and circulation of the blood
Pons	Hindbrain	Serves as a bridge to connect the two halves of the brain
Cerebellum	Hindbrain	Coordinates muscular movements
Reticular formation	Midbrain	Controls levels of arousal or alertness

STUDY CHARTS

Many chapters include study charts that will be useful when you prepare for tests and quizzes.

A group of experts estimates that a lack of understanding of depression and the failure to prevent, recognize, and treat this disorder cost U.S. employers about \$44 billion every year; more than half of that figure is due to absenteeism and lowered productivity (Finkelstein & Greenberg, 1994).

Supervisors play a key role in these efforts because they can provide support for distressed employees. They can encourage employees who are experiencing depression to seek professional help. When creating work schedules, they should recognize that depressed employees who seek treatment may need more flexible schedules. Moreover, severe depression can lead to suicide. If an employee makes comments like those made by Jim in the vignette at the beginning of this section, the supervisor should contact an employee assistance program counselor or other specialist to seek guidance in handling the situation.

APPLYING PSYCHOLOGY:

Depression in the Workplace

APPLYING PSYCHOLOGY

Each chapter includes a special section showing how psychological concepts are applied in the real world, especially the workplace.

HANDS ON

Most chapters include Hands-On exercises or questionnaires. These are designed to give you an opportunity to see for yourself how important psychology is in your day-to-day life.

TABLE

14-4

DEPRESSION QUESTIONNAIRE



We all feel blue at times, but serious depression is qualitatively different and much more severe. This questionnaire will help you gauge the presence of the symptoms of depression. If five or more symptoms persist for more than 2 weeks or cause impairment in your daily functioning at work or in the family setting, it might be a good idea to discuss them with a counselor or a therapist.

- Persistent sad or "empty" mood
- Loss of interest or pleasure in ordinary activities, including sex
- Feelings of guilt, worthlessness, helplessness
- Thoughts of death or suicide, suicide attempts
- Excessive crying
- Chronic aches and pains that don't respond to treatment

Source: U.S. Department of Health and Human Services, 1994.

LOOKING AHEAD

In this chapter we have examined the biological foundations of psychology: the nervous system, especially the brain, and the endocrine system. We have seen how these systems are involved in sensing, processing, and responding to stimuli in our environment. In the next chapter we look more closely at these processes. We explore the ways in which specialized receptors in the nervous system sense stimuli and how the resulting sensations are processed to produce the perceptions that are the raw materials of psychological functioning.

LOOKING AHEAD

At the end of the chapter is a paragraph labeled "Looking Ahead" that will help you link what you have just learned to the material to be discussed in the next chapter.

CHAPTER

1

PSYCHOLOGY AND YOU



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