


# PSYCHOLOGY

THEMES AND VARIATIONS

WAYNE WEITEN



# PSYCHOLOGY

## THEMES AND VARIATIONS

Wayne Weiten

---

College of DuPage



**Brooks/Cole Publishing Company**  
Pacific Grove, California

Consulting Editor: Lawrence S. Wrightsman

Brooks/Cole Publishing Company  
A Division of Wadsworth, Inc.

© 1989 by Wadsworth, Inc., Belmont, California 94002. All rights reserved. No part of this book may be reproduced, stored in a retrieval system, or transcribed, in any form or by any means — electronic, mechanical, photocopying, recording, or otherwise — without the prior written permission of the publisher, Brooks/Cole Publishing Company, Pacific Grove, California 93950, a division of Wadsworth, Inc.

Printed in the United States of America

10 9 8 7 6 5 4 3 2

**Library of Congress Cataloging-in-Publication Data**

Weiten, Wayne. [date]

Psychology : themes and variations.

Bibliography: p.

Includes index.

1. Psychology. I. Title.

BF121.W38 1989 150 88-26207

ISBN 0-534-08760-4

Sponsoring Editor: Philip L. Curson  
Project Development Editors: John Bergez and Janet Hunter  
Editorial Assistant: Amy Mayfield  
Production Coordinator: Fiorella Ljunggren  
Production: Nancy Sjoberg, Del Mar Associates  
Production Assistant: Dave Estrada  
Manuscript Editor: Linnea Dayton  
Interior Design: John Odam and Tom Gould  
Cover Art and Design: Flora Pomeroy  
Interior Illustration: John Odam, Richard Carter,  
and Kim Fraley  
Graphics Consultant: Alastair Norman McLeod, Ph.D.  
Photo Researcher and Permissions Editor: Linda L. Rill  
Typesetting: Thompson Type  
Color Separation: Rainbow Graphic Arts Co., Ltd.  
Cover Printing: The Lehigh Press Company  
Printing and Binding: Rand McNally & Company

Credits continue on p. 693.



f I had to sum up in a single sentence what I hope will distinguish this text, the sentence would be this: I have set out to create a *paradox* instead

of a *compromise*.

Let me elaborate. An introductory psychology text must satisfy two disparate audiences: professors and students. Because of the tension between the divergent needs and preferences of these audiences, textbook authors usually indicate that they have attempted to strike a compromise between being theoretical versus practical, comprehensive versus comprehensible, research oriented versus applied, rigorous versus accessible, and so forth. However, I believe that many of these dichotomies are false. As Kurt Lewin once remarked, “What could be more practical than a good theory?” Similarly, is rigorous really the opposite of accessible? Not in my dictionary. I maintain that many of the antagonistic goals that we strive for in our textbooks only *seem* incompatible, and that we may not need to make compromises as often as we assume.

In my estimation, a good introductory textbook is a paradox in that it integrates characteristics and goals that appear contradictory. With this in mind, I have endeavored to write a text that is paradoxical in three ways. First, in surveying psychology’s broad range of content, I have tried to show that our interests are characterized by diversity *and* unity. Second, I have emphasized both research *and* application and how they work in harmony. Finally, I have aspired to write a book that is challenging to think about *and* easy to learn from. Let’s take a closer look at these goals.

## Goals

1. *To show both the unity and the diversity of psychology’s subject matter.* Students entering an introductory psychology course often are unaware of the immense diversity of subjects studied by psychologists. I find this diversity to be part of psychology’s charm, and throughout the book I highlight the enormous range of questions and issues addressed by psychology. Of course, our diversity proves disconcerting for some students who see little continuity between such disparate areas of research as physiology, motivation, cognition, and abnormal behavior. Indeed, in this era of specialization, even some psychologists

express concern about the fragmentation of the field.

However, I believe that there is considerable overlap among the subfields of psychology and that we should emphasize their common core by accenting the connections and similarities among them. Consequently, I portray psychology as an integrated whole rather than as a mosaic of loosely related parts. A principal goal of this text, then, is to highlight the unity in psychology’s intellectual heritage (the themes), as well as the diversity of psychology’s interests and uses (the variations).

2. *To illuminate the process of research and its intimate link to application.* For me, a research-oriented book is not one that bulges with summaries of many studies but one that enhances students’ appreciation of the logic and excitement of empirical inquiry. I want students to appreciate the strengths of the empirical approach and to see scientific psychology as a creative effort to solve intriguing behavioral puzzles. For this reason, the text emphasizes not only *what* we know (and don’t know) but *how* we attempt to find out. Methods are examined in some detail, and students are encouraged to adopt the skeptical attitude of a scientist and to think critically about claims regarding behavior.

Learning the virtues of research should not mean that students cannot also satisfy their desire for concrete, personally useful information about the challenges of everyday life. Most researchers believe that psychology has a great deal to offer those outside the field and that we should share the practical implications of our work. In this text, practical insights are carefully qualified and closely tied to data, so that students can see the interdependence of research and application. I find that students come to appreciate the science of psychology more when they see that worthwhile practical applications are derived from careful research and sound theory.

3. *To make the text challenging to think about and easy to learn from.* Perhaps most of all, I have sought to create a *book of ideas* rather than a compendium of studies. I consistently emphasize concepts and theories over facts, and I focus on major issues and tough questions that cut across the subfields of psychology (for example, the extent to which behavior is governed by nature, nurture, and their interaction), as opposed to parochial debates (such as the merits of averaging versus adding in impression formation). Chal-

lenging students to think also means urging them to confront the complexity and ambiguity of our knowledge. Hence, the text doesn't skirt around gray areas, unresolved questions, and theoretical controversies. Instead, readers are encouraged to contemplate open-ended questions, to examine their assumptions about behavior, and to apply psychological concepts to their own lives. My goal is not simply to describe psychology but to stimulate students' intellectual growth.

However, students can grapple with "the big issues and tough questions" only if they first master the basic concepts and principles of psychology—ideally, with as little struggle as possible. In my writing, I never let myself forget that a textbook is a tool for teaching. Accordingly, great care has been taken to ensure that the book's content, organization, writing, illustrations, and pedagogical aids work in harmony to facilitate instruction and learning.

Admittedly, these goals are ambitious. If you're skeptical, you have every right to be. Let me explain how I have tried to realize the objectives I have outlined.

## Special Features

This text has a variety of unusual features, each contributing in its own way to the book's paradoxical nature. These special features include unifying themes, featured studies, application sections, a didactic illustration program, an integrated running glossary, and concept checks.

### Unifying Themes

Chapter 1 introduces six key ideas that serve as unifying themes throughout the text. The themes serve several purposes. First, they provide threads of continuity across chapters that help students to see the connections among different areas of research in psychology. Second, as the themes evolve over the course of the book, they provide a forum for a relatively sophisticated discussion of enduring issues in psychology, thus helping to make this a "book of ideas." Third, the themes focus a spotlight on a number of basic insights about psychology and its subject matter that should leave lasting impressions on your students.

In selecting the themes, the question I asked myself (and other professors) was "What do I really want students to remember 5 years from now?" The resulting themes are grouped into two sets.

#### THEMES RELATED TO PSYCHOLOGY AS A FIELD OF STUDY

**Theme 1: Psychology is empirical.** This theme is used to enhance the student's appreciation of psy-

chology's scientific nature and to demonstrate the advantages of empiricism over uncritical common sense and speculation. I also use this theme to encourage the reader to adopt a scientist's skeptical attitude, to engage in more critical thinking about information of all kinds.

**Theme 2: Psychology is theoretically diverse.** Students are often confused by psychology's theoretical pluralism and view it as a weakness. I don't downplay or apologize for our theoretical diversity, because I honestly believe that it is one of our greatest strengths. Throughout the book, I provide concrete examples of how clashing theories have stimulated productive research, how converging on a question from several perspectives can yield increased understanding, and how competing theories are sometimes reconciled in the end.

**Theme 3: Psychology evolves in a sociohistorical context.** This theme emphasizes that psychology is embedded in the ebb and flow of everyday life. The text shows how the spirit of the times has often shaped psychology's evolution and how progress in psychology leaves its mark on our society.

#### THEMES RELATED TO PSYCHOLOGY'S SUBJECT MATTER

**Theme 4: Behavior is determined by multiple causes.** Throughout the book, I emphasize, and repeatedly illustrate, that behavioral processes are complex and that multifactorial causation is the rule. This theme is used to discourage simplistic, single-cause thinking and to encourage more critical reasoning.

**Theme 5: Heredity and environment jointly influence behavior.** Repeatedly discussing this theme permits me to air out the nature versus nurture issue in all its complexity. Over a series of chapters, students gradually learn how biology shapes behavior, how experience shapes behavior, and how scientists estimate the relative importance of each. Along the way, students will gain an in-depth appreciation of what we mean when we say that heredity and environment interact.

**Theme 6: Our experience of the world is highly subjective.** All of us tend to forget the extent to which we view the world through our own personal lens. This theme is used to explain the principles that underlie the subjectivity of human experience, to clarify its implications, and to repeatedly remind the readers that their view of the world is not the only legitimate view.

After all six themes have been introduced in Chapter 1, different sets of themes are discussed

in each chapter, as they are relevant to the subject matter. The connections between a chapter's content and the unifying themes are highlighted in a standard section near the end of the chapter, in which I reflect on the "lessons to be learned" from the chapter. The discussions of the unifying themes are largely confined to these sections, entitled "Putting It in Perspective." No effort was made to force every chapter to illustrate a certain number of themes. The themes were allowed to emerge naturally, and I found that one, two, or three surfaced prominently in any given chapter. The accompanying chart shows which themes are highlighted in each chapter.

### Featured Studies

Each chapter except the first includes a Featured Study that provides a relatively detailed but clear summary of a particular piece of research. Each Featured Study is presented in the conventional purpose-method-results-discussion format seen in journal articles, followed by a comment in which I discuss why the study is featured (to illustrate a specific method, raise ethical issues, and so forth). By showing research methods in action, I hope to improve students' understanding of how research is done, while also giving them a painless introduction to the basic format of journal articles. Additionally, the Featured Studies show how complicated research can be, so students can better appreciate why scientists may disagree about the meaning of a study. The Featured Studies, incidentally, are fully incorporated into the flow of discourse in the text and are *not* presented as optional boxes.

In selecting the Featured Studies, I assembled a mixture of classics and recent studies that illustrate a wide variety of methods. To make them enticing, I tilted my selections in favor of studies that students find interesting. Thus, readers are given relatively detailed accounts of classics like Sperry's split-brain research, Milgram's work on obedience, Rosenhan's study of pseudopatients, and Schachter's test of his two-factor theory of emotion. They will also encounter recent explorations of personality resemblance between twins, the media-violence question, the ape-language controversy, and the problem of homelessness among the mentally ill.

### Application Sections

To reinforce the pragmatic implications of theory and research that are stressed throughout the text, each chapter closes with an Application section that highlights the personal, practical side of psychology. Each Application devotes three to six pages of text (rather than the usual box) to a single

Unifying Themes Highlighted in Each Chapter						
CHAPTER	THEME					
	1 EMPIRICAL	2 THEORETICAL DIVERSITY	3 SOCIO-HISTORICAL CONTEXT	4 MULTIFACTORIAL CAUSATION	5 HEREDITY AND ENVIRONMENT	6 SUBJECTIVITY OF EXPERIENCE
1. The Evolution of Psychology	■	■	■	■	■	■
2. The Research Enterprise in Psychology	■					■
3. The Biological Bases of Behavior	■				■	
4. Sensation and Perception		■				■
5. Variations in Consciousness		■	■			■
6. Learning Through Conditioning			■		■	
7. Human Memory				■		■
8. Language and Thought	■				■	
9. Intelligence and Psychological Testing			■		■	
10. Motivation and Emotion		■		■	■	
11. Development Across the Life Span					■	
12. Personality: Theory and Research		■	■			
13. Stress, Coping, and Health				■		■
14. Psychological Disorders			■	■	■	
15. Psychotherapy		■				
16. Social Behavior	■					■

issue that should be of special interest to many of your students. Although most of the Application sections have a "how to" character, they continue to review studies and summarize data in much the same way as the main body of each chapter. Thus, they portray research and application not as incompatible polarities, but as two sides of the same coin. Many of the Applications—such as those on finding and reading journal articles, understanding art and illusion, using tests in career planning, and enhancing self-esteem—provide topical coverage unusual for an introductory text.

## A Didactic Illustration Program

When I first outlined my plans for this text, I indicated that I wanted every aspect of the illustration program to have a genuine didactic purpose and that I wanted to be deeply involved in its development. In retrospect, I had no idea what I was getting myself into, but it has been a rewarding learning experience. I was intimately involved in planning every detail of the illustration program, along with another psychologist with experience in these matters (Alastair McLeod) and an editor who was familiar with every nuance of the book (John Bergez). Together, we have worked to create a program of figures, diagrams, photos, and tables that work hand in hand with the prose to strengthen and clarify the main points in the text. As part of this effort, we have designed many original illustrations and revised many old standbys that you have seen before.

The most obvious results of our didactic approach to illustration are the four summary spreads that combine tabular information, photos, diagrams, and sketches to provide exciting overviews of key ideas in the history of psychology, learning, development, and personality theory. But I hope you will also notice the subtleties of the illustration program. For instance, diagrams of important concepts (conditioning, synaptic transmission, EEGs, experimental design, and so forth) are often repeated in several chapters (with variations) to highlight connections among research areas and to enhance students' mastery of key ideas. Numerous easy-to-understand graphs of research results underscore psychology's foundation in research, and we often use photos and diagrams to bolster each other (for example, see the treatment of classical conditioning in Chapter 6). Color is used carefully as an organizational device (see the figures showing psychology's areas of specialization in Chapter 1), and visual schematics are used to simplify hard-to-visualize concepts (see the figure explaining reaction range for intelligence in Chapter 9). All of these efforts were made in the service of one master: the desire to make this an inviting book that is easy to learn from.

## Integrated Running Glossary

An introductory text should place great emphasis on acquainting students with psychology's technical language—not for the sake of jargon, but because a great many of our key terms are also our cornerstone concepts (for example, independent variable, reliability, and cognitive dissonance). This text handles terminology with a running glossary embedded in the prose itself. The terms

are set off in boldface italics, and the definitions follow in boldface roman type. This approach retains the two advantages of a conventional running glossary: vocabulary items are made salient, and their definitions are readily accessible. However, it does so without interrupting the flow of discourse, while eliminating redundancy between text matter and marginal entries.

## Concept Checks

To help students assess their mastery of important ideas, Concept Checks are sprinkled throughout the book (two to four per chapter). In keeping with my goal of making this a book of ideas, the Concept Checks challenge students to apply ideas instead of testing rote memory. For example, in Chapter 6 the reader is asked to analyze realistic examples of conditioning and identify conditioned stimuli and responses, reinforcers, and schedules of reinforcement. Many of the Concept Checks require the reader to put together ideas introduced in different sections of the chapter. For instance, in Chapter 4 students are asked to identify parallels between vision and hearing and in Chapter 11 to analyze interactions between cognitive, moral, emotional, and social development. Some of the Concept Checks are quite challenging, but students find them engaging, and they report that the answers (available in the back of the book) are illuminating.

In addition to the special features just described, the text includes a variety of more conventional, “tried and true” features as well. The back of the book contains a standard *alphabetical glossary*. Opening *outlines* preview each chapter, and a thorough *summary* of key ideas appears at the end of each chapter, along with lists of *key terms* and *key people* (important theorists and researchers). I make frequent use of *italics for emphasis*, and I depend on *frequent headings* to maximize organizational clarity. The preface for students describes these pedagogical devices in more detail.

## Content

The text is divided into 16 chapters, which follow a traditional ordering. The chapters are not grouped into sections or parts, primarily because such groupings can limit your options if you want to reorganize the order of topics. The chapters are written in a way that facilitates organizational flexibility, as I always assumed that some chapters might be omitted or presented in a different order.

The topical coverage in the text is relatively conventional, but there are some subtle departures from the norm. For instance, Chapter 1

presents a relatively “meaty” discussion of the evolution of ideas in psychology. This coverage of history lays the foundation for many of the crucial ideas emphasized in subsequent chapters. The historical perspective is also my way of reaching out to the students who find that psychology just isn’t what they expected it to be. If we want students to contemplate the mysteries of behavior, we must begin by clearing up the biggest mysteries of them all: “Where did these rats, statistics, synapses, and JNDs come from; what could they possibly have in common; and why doesn’t this course bear any resemblance to what I anticipated?” I use history as a vehicle to explain how psychology evolved into its modern form and why misconceptions about its nature are so common.

I also devote an entire chapter (Chapter 2) to the scientific enterprise—not just the mechanics of research methods but the logic behind them. I believe that an appreciation of the nature of empirical evidence can contribute greatly to improving students’ critical thinking skills. Ten years from now, many of the “facts” reported in this book will have changed, but an understanding of the methods of science will remain invaluable. An introductory psychology course, by itself, isn’t going to make a student think like a scientist, but I can’t think of a better place to start the process. Essential statistical concepts are introduced in Chapter 2, but no effort is made to teach actual calculations. For those who emphasize statistics, Appendix B in the back of the book expands on statistical concepts.

Overall, I trust you’ll find the coverage up to date, although I do not believe in the common practice of piling up gratuitous references to recent studies to create an impression of currency. I think that an obsession with this year’s references derogates our intellectual heritage and suggests to students that the studies we cite today will be written off tomorrow. I often chose to cite an older source over a newer one to give students an accurate feel for when an idea first surfaced or when an issue generated heated debate.

## Writing Style

---

I strive for a down-to-earth, conversational writing style; effective communication is always the paramount goal. My intent is to talk *with* the reader rather than throw information *at* the reader. To clarify concepts and maintain students’ interest, I frequently provide concrete examples that students can relate to. As much as possible, I avoid the use of technical jargon when ordinary language serves just as well.

Making learning easier depends, above all else,

on clear, well-organized writing. For this reason, I’ve worked hard to ensure that chapters, sections, and paragraphs are organized in a logical manner, so that key ideas stand out in sharp relief against supportive information.

To keep myself on the path of clarity, I submit my chapters to the ultimate authority: my students, who take great delight in grading *me* for a change. They’re given first drafts of chapters and are urged to slash away at pompous language and to flag sources of confusion. They are merciless—and enormously helpful.

The initial drafts of four chapters were written by other psychologists with expertise in those areas of research. Michael Levine (University of Illinois at Chicago) and Stephen Reed (San Diego State University), who both are experienced authors of undergraduate texts in their areas of expertise, each contributed two well-written chapters marked by outstanding scholarship. However, to ensure stylistic consistency and to achieve the substantive goals that I have outlined, I wrote the final versions of all four chapters.

## Supplementary Materials

---

The introductory course in psychology presents inherent difficulties for student and teacher alike. The teaching/learning package that has been developed to supplement *Psychology: Themes and Variations* was designed with these difficulties in mind. The development of all its parts was carefully coordinated so that they are mutually supported.

### Study Guide (by Ronald Wasden and Richard Stalling)

For your students, there is an exceptionally thorough Study Guide available to help them master the information in the text. It was written by two of my former professors, Ronald Wasden and Richard Stalling of Bradley University. They have 20 years of experience, as a team, writing study guides for introductory psychology texts, and their experience is readily apparent in the high-quality materials that they have developed.

The review of key ideas for each chapter is made up of an engaging mixture of matching exercises, fill-in-the-blank items, free-response questions, and programmed learning. Each review is organized around learning objectives written by myself and one of the authors of the Test Bank. The Study Guide is closely coordinated with the Test Bank, as the same learning objectives guided the construction of the questions in the Test Bank. The Study Guide also includes a review of key terms, a review of key people, and a self-test for each chapter in the text.



### **Instructor's Manual (by Stephen Davis, Randolph Smith, and Roger Thomas)**

The Instructor's Manual was written by three professors whose extensive activities in the American Psychological Association's Division on the Teaching of Psychology demonstrate their commitment to educational excellence: Stephen Davis (Emporia State University), Randolph Smith (Ouachita Baptist University), and Roger L. Thomas (Texas Christian University).

The first part of the Instructor's Manual contains an eloquent discussion of prospects, problems, and issues in teaching the introductory course. In the second part, you'll find a wealth of resources organized around the content of each chapter in the text, including lecture suggestions, ideas for class demonstrations, discussion questions, suggested readings, and relevant audiovisual materials.

### **Test Bank (by Susan Shodahl, Robin Lashley, and Wayne Weiten)**

Two outstanding young professors have worked with me in developing the Test Bank. Susan Shodahl (San Bernardino Valley College) and Robin Lashley (Kent State University) developed approximately 100 multiple-choice questions for

each of the 16 chapters in the text. I gave all of the questions a preliminary critique and a final edit. I also added and deleted questions to achieve the desired balance among types of questions and levels of difficulty.

The questions are closely tied to the chapter learning objectives, written by Robin and myself, and the lists of key terms and key people found in both the text and the Study Guide. The questions are categorized as factual or conceptual. Consistent with my aim of creating a book of ideas, the Test Bank includes a healthy balance of conceptual questions.

### **Other Teaching Aids**

Professors who adopt *Psychology: Themes and Variations* can obtain a number of additional teaching aids. Computerized versions of the Test Bank are available for a variety of computer configurations. The *computerized test bank* is user-friendly and allows you to insert your own questions and to customize those provided. A collection of *transparencies and slides* has been developed to enhance visual presentations in the classroom. A package of *computer simulations*, which can serve a variety of purposes, is also available.

## ACKNOWLEDGMENTS

---

Creating an introductory psychology text is a complicated challenge, and a small army of people have contributed to the evolution of this book. Foremost among them are the psychology editors I have worked with at Brooks/Cole—Claire Verduin, C. Deborah Laughton, and Phil Curson—and the developmental editor for this book, John Bergez. They have helped me immeasurably, and each has become a treasured friend along the way. Claire educated me in the intricacies of textbook publishing in working with me on my adjustment text. Deb provided astute feedback and creative ideas as I laid my plans for this text. Phil's hard work and enthusiastic support were invaluable in converting these plans into reality. I am especially indebted to John, who has devoted countless hours to this project. His exacting tutelage has left an enduring imprint on my writing.

I also want to thank Brooks/Cole's executive editor, Craig Barth, the president of Brooks/Cole, Mike Needham, and the president of Wadsworth Publishing, Dick Greenberg, for giving me the freedom to pursue my personal vision of what an introductory text should be like. They have let me take some chances and have allowed me extensive input regarding every aspect of the book's production. I have never felt constrained by a conservative corporate mentality.

The challenge of meeting a next-to-impossible schedule in producing this book was undertaken by a talented team of people assembled by Nancy Sjoberg at Del Mar Associates. Alastair McLeod, a psychologist with experience in designing textbook graphics, helped John Bergez and me to plan the illustration program. Alastair has many innovative ideas, and I learned a great deal from him. The color scheme for the book and most of the page layouts were designed by John Odam, who showed remarkable ingenuity and creativity (not to mention patience) in juggling the conflicting demands of the illustration program. A similar creative flair was shown by Tom Gould, who designed the chapter openers, the applications, and the four major summary spreads. Linda Rill handled photo research and permissions with efficiency and enthusiasm, and Linnea Dayton did an excellent job in copy editing the manuscript. Finally, Nancy Sjoberg and Dave Estrada provided the organizational glue that held these efforts together.

A host of psychologists deserve thanks for the contributions they made to this book. I am grate-

ful to Mike Levine and Steve Reed for their erudite drafts of Chapters 3 and 4, and 7 and 8, respectively; to Rick Stalling and Ron Wasden for their work on the Study Guide; to Robin Lashley and Susan Shodahl for their work on the Test Bank; to Steve Davis, Randolph Smith, and Roger Thomas for their work on the Instructor's Manual; to Charles Brewer for allowing us to reprint his "Ten Commandments" in the Instructor's Manual; to Larry Wrightsman for his help as consulting editor; and to the 46 reviewers listed on page xiv, who provided insightful and constructive critiques of various portions of the manuscript. I also want to thank the dedicated teachers who gather yearly in Evansville at the Mid-America Conference for Teachers of Psychology, organized by Joe Palladino. I always leave this meeting charged up about teaching and brimming with new ideas (for instance, a comment in a panel discussion by Ruth Ault inspired the thematic organization of this text).

Many other people have also contributed to this project, and I am grateful to all of them for their efforts. At Brooks/Cole, Fiorella Ljunggren monitored the production process, and Vernon Boes, Bill Bokermann, Janet Hunter, Amy Mayfield, Margaret Parks, Adrian Perenon, Mike Sugarman, Jean Vevers, and Linda Wright helped with varied aspects of the book's development and production. At the College of DuPage, the library staff provided me with invaluable assistance in tracking down needed materials. All of my colleagues in psychology provided support and information at one time or another, but I am especially indebted to Barb Lemme and Don Green. Various administrators at the college, including Dick Wood, Walt Packard, Dean Peterson, and Charlyn Fox, went out of their way to facilitate my writing efforts and earned my gratitude. I also want to thank the great many students from my classes who critiqued chapters and Kristi Haxton, a former student, who helped complete the reference entries.

Last, but not least, I am grateful to many friends for their support, especially Jerry Mueller, Bruce Krattenmakker, Carol Ricks, and Cheryl Kasel. My greatest debt is to my wife, Beth Traylor, who has been a steady source of emotional sustenance while enduring my complete preoccupation with this book. Beth, thanks for the patience. This one's for you.

Wayne Weiten

## REVIEWERS

---

- Lyn Y. Abramson  
University of Wisconsin
- Ruth L. Ault  
Davidson College
- Dan Bellack  
Lexington Community College
- Robert Bornstein  
Miami University
- Allen Branum  
South Dakota State University
- Dan W. Brunworth  
Kishwaukee College
- William Calhoun  
University of Tennessee
- Francis B. Colavita  
University of Pittsburgh
- Stan Coren  
University of British Columbia
- Stephen F. Davis  
Emporia State University
- Kenneth Deffenbacher  
University of Nebraska
- Roger Dominowski  
University of Illinois, Chicago
- Robert J. Douglas  
University of Washington
- James Eison  
Southeast Missouri State University
- Thomas P. Fitzpatrick  
Rockland Community College
- Donelson R. Forsyth  
Virginia Commonwealth University
- William J. Froming  
University of Florida
- Richard Griggs  
University of Florida
- Arthur Gutman  
Florida Institute of Technology
- Jane Halonen  
Alverno College
- Philip L. Hartley  
Chaffey College
- Glenn R. Hawkes  
Virginia Commonwealth University
- Lyllian B. Hix  
Houston Community College
- Robert A. Johnston  
College of William and Mary
- Alan R. King  
University of North Dakota
- Mike Knight  
Central State University
- Ronald Kopcho  
Mercer Community College
- Robin L. Lashley  
Kent State University, Tuscarawas
- Peter Leppman  
University of Guelph
- Wolfgang Linden  
University of British Columbia
- Donald McBurney  
University of Pittsburgh
- Ronald K. McLaughlin  
Juanita College, Pennsylvania
- Sheryll Mennicke  
University of Minnesota
- Richard Page  
Wright State University
- Joseph J. Palladino  
University of Southern Indiana
- Celia Reaves  
Monroe Community College
- Daniel W. Richards  
Houston Community College
- Fred Shima  
California State University,  
Dominguez Hills
- Susan A. Shodahl  
San Bernardino Valley College
- Steven M. Smith  
Texas A&M University
- Marjorie Taylor  
University of Oregon
- Donald Tyrrell  
Franklin and Marshall College
- Wayne Viney  
Colorado State University
- Keith D. White  
University of Florida
- Cecilia Yoder  
Oklahoma City Community College

# BRIEF CONTENTS

CHAPTER ONE APPLICATION	<b>The Evolution of Psychology</b> Improving Academic Performance
CHAPTER TWO APPLICATION	<b>The Research Enterprise in Psychology</b> Finding and Reading Journal Articles
CHAPTER THREE APPLICATION	<b>The Biological Bases of Behavior</b> Right Brain/Left Brain: Two Modes of Thinking?
CHAPTER FOUR APPLICATION	<b>Sensation and Perception</b> Thinking About Art and Illusion
CHAPTER FIVE APPLICATION	<b>Variations in Consciousness</b> Addressing Practical Questions About Sleep and Dreams
CHAPTER SIX APPLICATION	<b>Learning Through Conditioning</b> Achieving Self-Control Through Behavior Modification
CHAPTER SEVEN APPLICATION	<b>Human Memory</b> Improving Everyday Memory
CHAPTER EIGHT APPLICATION	<b>Language and Thought</b> Solving Problems Systematically
CHAPTER NINE APPLICATION	<b>Intelligence and Psychological Testing</b> Using Tests to Aid Career Planning
CHAPTER TEN APPLICATION	<b>Motivation and Emotion</b> Understanding Human Sexuality
CHAPTER ELEVEN APPLICATION	<b>Human Development Across the Life Span</b> Understanding Gender Differences
CHAPTER TWELVE APPLICATION	<b>Personality: Theory and Research</b> Understanding and Enhancing Self-Esteem
CHAPTER THIRTEEN APPLICATION	<b>Stress, Coping, and Health</b> Improving Coping and Stress Management
CHAPTER FOURTEEN APPLICATION	<b>Psychological Disorders</b> Understanding and Preventing Suicide
CHAPTER FIFTEEN APPLICATION	<b>Psychotherapy</b> Looking for a Therapist
CHAPTER SIXTEEN APPLICATION	<b>Social Behavior</b> Understanding Prejudice



Welcome to your introductory psychology textbook. In most college courses, students spend more time with their textbook than with their professors, so it helps if students *like* their textbooks. Making textbooks likable, however, is a tricky proposition. By its very nature, a textbook must introduce students to many complicated concepts, ideas, and theories. If it doesn't, it isn't much of a textbook, and instructors won't choose to use it. Nevertheless, in writing this book I've tried to make it as likable as possible without compromising the academic content that your instructor demands. I've especially tried to keep in mind your need for a clear, well-organized presentation that makes the important material stand out and yet is interesting to read. Above all else, I hope you find this book challenging to think about and easy to learn from.

Before you plunge into your first chapter, let me introduce you to the book's key features. Becoming familiar with how the book works will help you to get more out of it.

## Key Features

---

You're about to embark on a journey into a new domain of ideas. Your text includes some important features that are intended to highlight certain aspects of psychology's landscape.

**UNIFYING THEMES** To help you make sense of a complex and diverse field of study, I introduce six themes in Chapter 1 that will reappear in a number of variations as we move from chapter to chapter. These unifying themes are meant to provoke thought about important issues and to highlight the connections between chapters. They are discussed at the end of each chapter in a section called "Putting It in Perspective."

**FEATURED STUDIES** After Chapter 1, each chapter includes a clearly marked Featured Study, which is an in-depth look at an important, interesting, or provocative piece of research. The Featured Studies are presented as if they were journal articles. I hope they will help you understand how psychologists conduct and report their research.

**APPLICATION SECTIONS** At the end of each chapter you'll find an Application section that shows how psychology is relevant to everyday life. Some of these sections provide concrete advice that could be helpful to you in school, such as those on improving academic performance, improving everyday memory, achieving self-control, and solving problems systematically. So, you may want to jump ahead and read some of these Applications early.

## Learning Aids

---

This text contains a great deal of information. A number of learning aids have been incorporated into the book to help you digest it all.

An *outline* at the beginning of each chapter provides you with an overview of the topics covered in that chapter. Think of the outlines as road maps, and bear in mind that it's easier to reach a destination if you know where you're going.

*Headings* serve as road signs in your journey through each chapter. Four levels of headings are used to make it easy to see the organization of each chapter.

*Italics* (without boldface) are used liberally throughout the text to emphasize crucial points.

*Key terms* are identified with **italicized boldface** type to alert you that these are important vocabulary items that are part of psychology's technical language. The key terms are also listed at the end of the chapter.

An *integrated running glossary* provides an on-the-spot definition of each key term as it's introduced in the text. These formal definitions are printed in **boldface** type. Becoming familiar with psychology's terminology is an essential part of learning about the field. The integrated running glossary should make this learning process easier.

*Concept Checks* are sprinkled throughout the chapters to let you test your mastery of important ideas. Generally, they ask you to integrate or organize a number of key ideas, or to apply ideas to real-world situations. Although they're meant to be engaging and fun, they do check *conceptual understanding*, and some are challenging. But if you get stuck, don't worry; the answers (and explanations, where they're needed) are in the back of the book in Appendix A.

*Illustrations* in the text are important elements in your complete learning package. Some illustrations provide enlightening diagrams of complicated concepts; others furnish examples that help to flesh out ideas or provide concise overviews of research results. Careful attention to the tables and figures in the book will help you understand the material discussed in the text.

A *Chapter Review* at the end of each chapter provides a thorough summary of the chapter's *key ideas*, a list of *key terms*, and a list of *key people* (important theorists and researchers). It's wise to read over these review materials to make sure you've digested the information in the chapter.

An *alphabetical glossary* is provided in the back of the book. Most key terms are formally defined in the integrated running glossary only when they are first introduced. So, if you run into a technical term a second time and can't remember its meaning, it may be easier to look it up in the alphabetical glossary than to backtrack to find the definition where the term was originally introduced.

---

### A Few Footnotes

Psychology textbooks customarily identify the studies, theoretical treatises, books, and articles that information comes from. These *citations* occur (1) when names are followed by a date in parentheses, as in "Smith (1972) found that . . ." or (2) when names and dates are provided together within parentheses, as in "In one study (Smith, Miller, & Jones, 1987), the researchers attempted to . . ." All of the cited publications are listed by author in the alphabetized *References* section in the back of the book. The citations and references are a necessary part of a book's scholarly and scientific foundation. Practically speaking, however, you'll probably want to glide right

over them as you read. You definitely don't need to memorize the names and dates. The only names you may need to know are the handful listed under Key People in each Chapter Review (unless your instructor mentions a personal favorite that you should know).

In addition to the references, you'll find a *Name Index* and a *Subject Index* in the back of the book. The name index tells you the pages on which various names were cited. It's very helpful if you're looking for the discussion of a particular study and you know the name(s) of the author(s). And, if the need arises, the subject index allows you to look up the pages on which a specific topic is covered.

---

### A Word About the Study Guide

A *Study Guide* is available to accompany this text. It was written by two of my former professors, who introduced me to psychology years ago. They have done a great job of organizing review materials to help you master the information in the book. I suggest that you seriously consider using it to help you study.

---

### A Final Word

I'm very pleased to be a part of your first journey into the world of psychology, and I sincerely hope that you'll find the book as thought provoking and as easy to learn from as I've tried to make it. If you have any comments or advice on the book, please write to me in care of the publisher (Brooks/Cole Publishing Company, Pacific Grove, California, 93950). You can be sure I'll pay careful attention to your feedback. Finally, let me wish you good luck. I hope you enjoy your course and learn a great deal.

Wayne Weiten

# CONTENTS

## CHAPTER ONE 1

### THE EVOLUTION OF PSYCHOLOGY



#### **From Speculation to Science: How Psychology Developed 3**

Probing the Mysteries of the Mind: Toward the Birth of Psychology  
The Parents Meet: Psychology's Origins in Philosophy and Physiology  
A New Science Is Born: Wundt's Contributions  
The Battle of the "Schools" Begins: Structuralism Versus Functionalism  
Watson Alters Psychology's Course as Behaviorism Makes Its Debut  
Freud Brings the Unconscious into the Picture  
Skinner Questions Free Will as Behaviorism Flourishes  
The Humanists Revolt  
Psychology Comes of Age as a Profession  
Psychology Returns to Its Roots: Renewed Interest in Cognition and Physiology

#### **Psychology Today: Vigorous and Diversified 17**

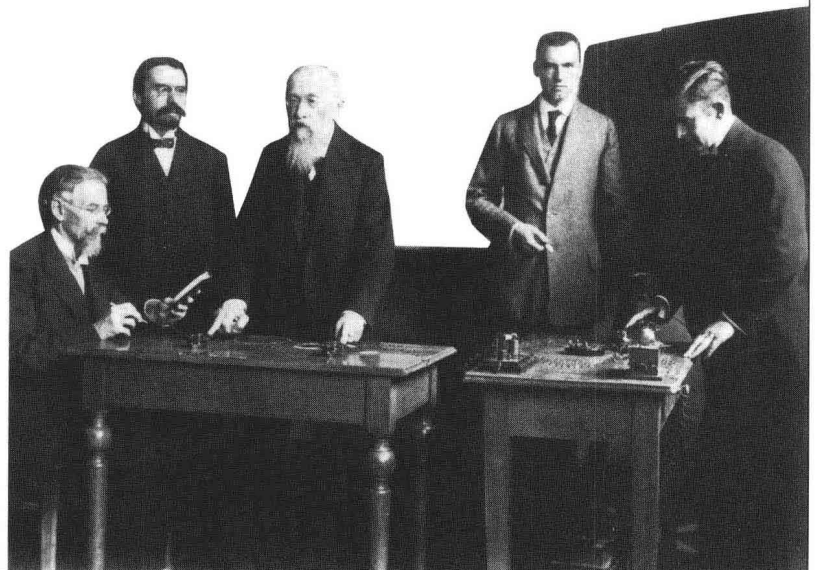
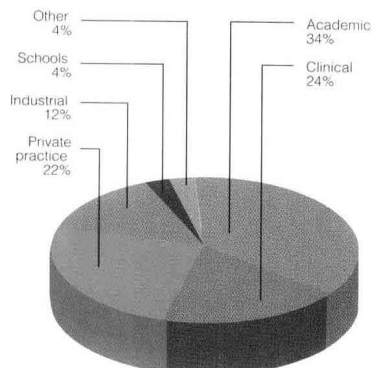
Research Areas in Psychology  
Professional Specialties in Psychology

#### **Putting It in Perspective 20**

Themes Related to Psychology as a Field of Study  
Themes Related to Psychology's Subject Matter

#### **Application: Improving Academic Performance 24**

Developing Sound Study Habits  
Improving Your Reading  
Getting More out of Lectures  
Improving Test-Taking Strategies



# THE RESEARCH ENTERPRISE IN PSYCHOLOGY



## Looking for Laws: The Scientific Approach to Behavior 34

Goals of the Scientific Enterprise  
Steps in a Scientific Investigation  
Advantages of the Scientific Approach

## Looking for Causes: Experimental Research 38

Independent and Dependent Variables  
Experimental and Control Groups  
Extraneous Variables  
Variations in Designing Experiments  
*Featured Study: Can Hypnosis Improve Eyewitness Memory?*  
Advantages and Disadvantages of Experimental Research

## Looking for Links: Correlational Research 44

Naturalistic Observation  
Case Studies  
Surveys and Psychological Tests  
Advantages and Disadvantages of Correlational Research

## Looking for Conclusions: Statistics and Research 47

Descriptive Statistics  
Inferential Statistics

## Looking for Flaws: Evaluating Research 51

Sampling Bias  
Placebo Effects  
Confounding of Variables  
Distortions in Self-Report Data  
Experimenter Bias

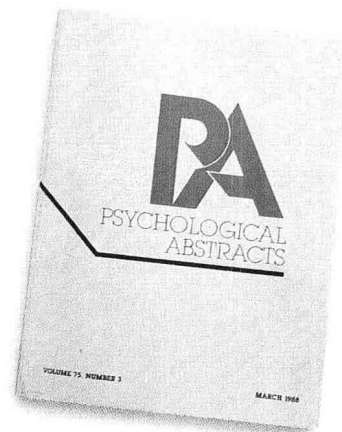
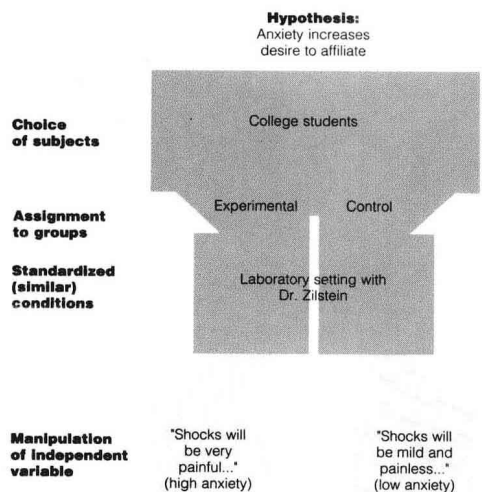
## Looking at Ethics: Do the Ends Justify the Means? 54

The Question of Deception  
The Question of Animal Research

## Putting It in Perspective 56

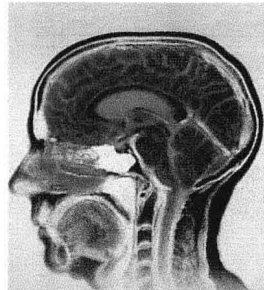
## Application: Finding and Reading Journal Articles 58

The Nature of Technical Journals  
Finding Journal Articles  
Reading Journal Articles





# THE BIOLOGICAL BASES OF BEHAVIOR



with Michael W. Levine

## Communication in the Nervous System 66

Nervous Tissue: The Basic Hardware  
The Neural Impulse: Using Energy to Send Information  
The Synapse: Where Neurons Meet  
Neurotransmitters and Behavior

## Organization of the Nervous System 75

The Peripheral Nervous System  
The Central Nervous System

## Looking Inside the Brain: Research Methods 79

Electrical Recordings  
Ablation and Lesions  
Electrical Stimulation of the Brain  
Brain-Imaging Procedures

## The Brain and Behavior 82

The Hindbrain: Essential Functions  
The Midbrain: Additional Essential Functions  
The Forebrain: Diverse Functions

## Right Brain/Left Brain: Cerebral Specialization 87

Bisecting the Brain: Split-Brain Research  
*Featured Study: When the Right Hand Really Doesn't Know What the Left Hand Is Doing*  
Hemispheric Specialization in the Intact Brain

## The Endocrine System: Another Way to Communicate 92

## Heredity and Behavior: Is It All in the Genes? 93

Basic Principles of Genetics  
Detecting Hereditary Influence: Research Methods  
The Interplay of Heredity and Environment

## Putting It in Perspective 98

## Application: Right Brain/Left Brain—Two Modes of Thinking? 99

Cerebral Specialization and Cognitive Processes  
Complexities and Qualifications

