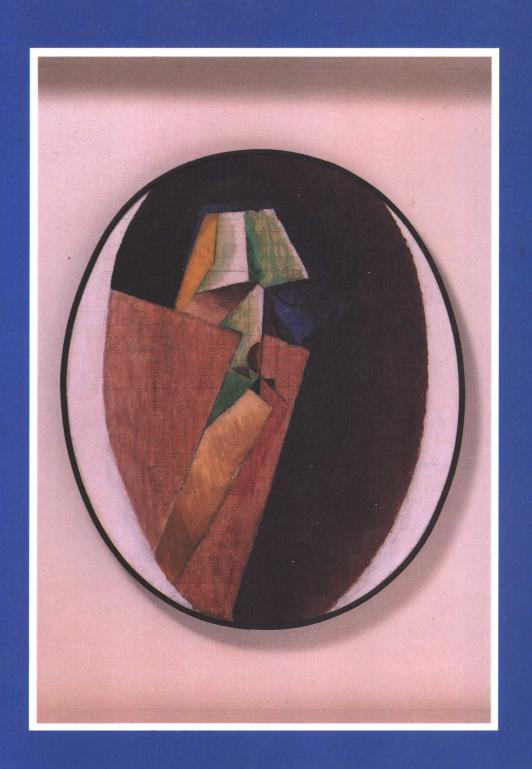
Terry F. Pettijohn

THIRD EDITION

# **PSYCHOLOGY**

A Concise Introduction



#### THIRD EDITION

# **PSYCHOLOGY**

### A Concise Introduction

Terry F. Pettijohn

Ohio State University



The Dushkin Publishing Group, Inc.

#### Credits & Acknowledgments

Cover: Head of a Woman by Jacques Villon. Museum of Art, Rhode Island School of Design, Mary B. Jackson Fund. Photography by Cathy Carver. Cover design by Harry Rinehart; 5 United Nations; 6 Pamela Carley Petersen; 8 The Bettmann Archive, Inc.; Brown Brothers; 9 UPI/Bettmann; 10 The Bettman Archive, Inc.; Harvard University Archives; 11 Culver Pictures, Inc.; 12 UPI/Bettmann; The Bettmann Archive, Inc.; 36 AP/Wide World; 37 © Mark Antman-The Image Works; 38 Professor José M. R. Delgado; 52 Jason Laure, 1978-Woodfin Camp & Associates; 53 "Infant Visual Preference" adapted from "The Origin of Form Perception" by Robert L. Fantz, copyright © 1961 by Scientific American, Inc., all rights reserved; 55 Mr. & Mrs. Daniel Petit; Mr. & Mrs. Richard Yarian; 56 Pamela Carley Petersen; 57 Elizabeth Crews-Stock • Boston; 58 University of Wisconsin, Primate Lab; 59 Leonard Freed, © Magnum Photo; 60 Yves de Braine-Black Star; 61 Zimbel-Monkmeyer; 63 Bob Fitch-Black Star; 68 United Nations photo by L. Barns; 69 courtesy SNET: 70-71 United Nations photos by John Isaac; 77 Topham-The Image Works; 87 Figure 4.14 from Gesetze des Sehens by Wolfgang Metzger, 1953, Frankfurt am Main, Germany: Verlag Waldemar Kramer, p. 313; 87 David H. Wells-The Image Works; 88 New School for Social Research; UPI/ Bettmann; The Granger Collection; 89 State of Minnesota; Department of Economic Development; 90 Greater Boston Convention & Tourist Bureau; 91 United Nations photo by Shelley Rotner; 96 Roswell Angier-Stock • Boston; 97 Pamela Carley Petersen; 100 "Pain Mechanisms: A New Theory" by Melzack and Wall, Nov. 1985, The Journal of Science, 150 (3699), p. 975; 100 © W. Hill, Jr.—The Image Works; 101 Don Hogan Charles—NYT Pictures; 105 NYT Pictures; 106 Florida News Bureau; 109 "Sequence of Sleep Stages" from Some Must Watch While Some Must Sleep by William C. Dement, copyright 1976 by William C. Dement, used by permission of the Stanford Alumni Association and William C. Dement; 109 Stanford Sleep Disorder Center; 111 Figure 5.5 from "Ontogenetic Development of the Human Sleep-Dream Cycle" by H. P. Roffwarg, J. N. Muzio, and W. C. Dement in Science, Vol. 152, pp. 604-619, copyright 1966 by The American Association for the Advancement of Science; 112 courtesy Detroit Institute of Arts; 115 United Nations photo by Jane Schreibman; 116 @ Dean Abramson,

Stock • Boston; 117 EPA Documerica; 120 Dr. H. W. Leeman and R. W. Frei, 1955, Triangle, Sandoz Journal of Medical Science, Vol. II, pp. 119-123; 122 Ray Ellis-Photo Researchers; 123 © David Powers-Stock • Boston; 129 courtesy Dr. B. F. Skinner; 131 The Bettman Archive, Inc.; 132 Pamela Carley Petersen; 133 Elaine Ward; 137 George N. Peet-The Picture Cube; 138 Teachers College Library, Columbia University, 139 San Diego Convention and Visitors Bureau; 140 Will Rapport; 141 Wm. S. Sahakian, Ph.D.; 142 Wm. S. Sahakian, Ph.D.; "Schedules of Reinforcement" from "Teaching Machines" by B. F. Skinner, copyright © 1961 by Scientific American, Inc., all rights reserved; 143 Las Vegas News Bureau; 145 John Watles-Miami Herald; 146 David Powers-Stock • Boston; 147 United Nations photo by John Isaac; 148 George W. Gardner-The Image Works; 149 © Three Lions; 151 Thomas McAvoy, Life magazine © 1955 Time Inc.; 156 The Bettmann Archive, Inc.; 164 UPI/Bettmann Newsphotos; 165 courtesy Elizabeth F. Loftus; 177 Ed Keating—NYT Pictures; 179 Figure 8.2 from The Speech Chain by Peter B. Denes and Elliot N. Pinson, copyright © 1963 by Bell Telephone Laboratories, Inc., used by permission of Doubleday, a division of Bantam Doubleday Dell Publishing Group, Inc.; Figure 8.3 from Aspects of the Theory of Syntax by N. Chomsky, 1965, MIT Press; 180 Figure 8.4 from " Acquisition of Language" by B. A. Moscowitz, copyright © 1978 by Scientific American, Inc., all rights reserved: 181 Lee Lockwood-Black Star; 182 B. T. and R. A. Gardner, Department of Psychology, University of Nevada; 185 "Problem Solving," by M. Scheerer, April 1963, Scientific American, 208 (4), Atlanta, GA; 188 & 190 "Nine-Dot Problem and Solution from "Problem Solving" by Martin Scheerer, copyright © 1963 by Scientific American, Inc., all rights reserved; 194 The Bettmann Archive, Inc.; 197 Mr. and Mrs. Langenderfer; 198 Figure 8.20 from "Familial Studies of Intelligence: A Review by T. J. Bouchard and M. McGue, Science, Vol. 212, May 29, 1981, pp. 1055-1959, copyright 1981 by the American Association for the Advancement of Science; 200 United Nations photo by John Isaac; 201 © Alan Carey—The Image Works; 202 United Nations photo by Jane Hanckel; 203 © 1989 Nita Winter-The Image Works; 209 courtesy Peter M. Milner, McGill University; 211 Ron Garrison © Zoological Society of San

continued on page 469

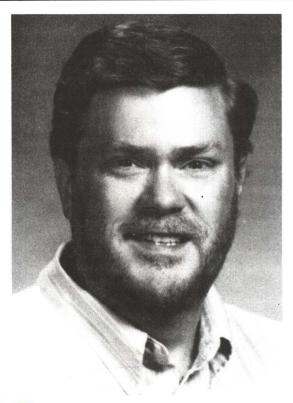
#### Psychology: A Concise Introduction, 3rd Edition

Copyright © 1992 by The Dushkin Publishing Group, Inc. All rights reserved. No part of this publication may be reproduced, or transmitted in any form or by any means, mechanical, electronic, photocopying, recording, or otherwise, without prior permission of the copyright holder except in the case of brief quotations embodied in critical articles and reviews.

Printed in the United States of America

Library of Congress Catalog Card Number: 91-77531

International Standard Book Number (ISBN) 1-56134-063-4



erry F. Pettijohn is Professor of Psychology at Ohio State University, where he has taught introductory psychology for nearly two decades. He has been recognized for his teaching efforts, including twice being a recipient of the University Award for Distinguished Teaching. He received his Ph.D. in experimental psychology from Bowling Green State University in 1974. His current research interests include the study of animal social behavior and computer-assisted learning. When he is not teaching or revising this book, Dr. Pettijohn enjoys traveling with his family, participating in church activities, taking photographs, and building his music collection. He is a member of the American Psychological Society, the Psychonomic Society, the Animal Behavior Society, the Society for Computers in Psychology, and the American Psychological Association, where he is affiliated with the Division of the Teaching of Psychology.

## **Preface**

"Vigorous writing is concise," counseled William Strunk, Jr., in *The Elements of Style*. "This requires," he went on, "not that the writer make all his sentences short, or that he avoid all detail and treat his subjects only in outline, but that every word tell."

I have strived to maintain the conciseness of the previous editions and to expand judiciously some topics, such as personality and health. In an attempt to provide an even clearer visual organization than before, I have added more topic headings. In addition, I have included a significant number of new references and have updated many others.

I have reorganized some topics within chapters as well as moved some topics within the textbook. For example, the material on animal communication was moved to chapter 9, "Motivation." And research on primate language is now discussed in chapter 8, "Language and Intelligence."

Most topics throughout the book have been updated since the last edition. The latest research findings have been included, as well as the current theories in the field. Thanks to an article by C. James Goodwin in the American Journal of Psychology (Spring 1991, vol. 104), an illustration showing a dog undergoing a classical conditioning experiment, erroneously attributed to Pavlov in previous editions of this textbook (as in most other textbooks), has been corrected in this edition. Further research has also led to the deletion from this edition of a series of drawings of cats, traditionally, but mistakenly, attributed to a schizophrenic patient. Many areas have been expanded in this edition. We now have expanded coverage of neurotransmitters in chapter 2, "Psychobiology," adulthood issues in chapter 3, "Development," love in chapter 10, "Emotion," and personality measurement in chapter 11, "Personality." A number of current topics in psychology have been added to the third edition, including daydreaming (chapter 5), the MMPI-2 (chapter 11), health enhancement behavior (chapter 12), and conflict and peace (chapter 15). In addition, a number of chapter opening stories and application highlights are new to this edition.

I believe that psychology is a delicate blend of rigorous science and humanistic perspective. I have tried to balance an intellectual approach to the subject matter with personal anecdotes and examples that I hope will give students an understanding and appreciation of the science of psychology.

As before, I have included a number of features in the textbook to help make it an effective learning tool.

CHAPTER OUTLINE At the beginning of each chapter I provide a brief outline consisting of the major headings in the chapter as a preview for students and to let them know what to expect in the chapter. The Chapter Outline is related to the Chapter Objectives and the Chapter Review for a complete learning program.

#### **CHAPTER OBJECTIVES**

The Chapter Objectives provide a guidepost for students to begin their learning of the chapter material. The objectives are always found on the first page of the chapter so students can easily find them and refer to them as they study. The major topics in each chapter are included in the objectives. Each objective is directly keyed to an item in the Chapter Review at the end of the chapter.

#### INTRODUCTORY PARAGRAPH

Each chapter begins with a short paragraph set in italics that provides a glimpse of what the chapter covers. This should be especially useful when students first skim the chapter.

#### OPENING STORY

Each chapter begins with a story of an important research study in psychology. The stories are nontechnical, and read easily. They often raise issues that are discussed in the chapter, and present interesting and useful information that is integrated with the chapter material. One of the goals of the opening story is to motivate the student to understand the topics covered in the chapter. Opening stories describe the work of psychologists such as Eleanor Gibson, Elizabeth Loftus, Jean Piaget, Stanley Schachter, Martin Seligman, and B. F. Skinner.

#### INTRODUCTORY **DEFINITIONAL** SECTIONS

Following the opening story, each chapter contains a WHAT IS? section. Here the general chapter topics are introduced and the main concepts are defined. After reading "What is Therapy?" in chapter 14, "Therapy," for example, students know that there are two major forms of therapy for psychological disorders, and have learned the names of the major types of each form of therapy. Of course, they then have to read the rest of the chapter to discover the details of the therapies mentioned.

#### APPLICATIONS

Each chapter has one or two Applications, which demonstrate how psychological theory can be applied to everyday situations. Applications include topics such as hormones and premenstrual syndrome, eating disorders, improvement of love relationships, biofeedback, stages of parenthood, television and aggression, jury selection, memory improvement, computers and programmed learning, education and learning disabilities, and stress and performance. In this edition, each Application is fully integrated into the appropriate section in a chapter. This does not break up the flow of reading and facilitates the understanding of the material.

#### BIOGRAPHICAL. **HIGHLIGHTS**

All chapters (with the exception of chapter 13) have one or two Biographical Highlights that present in-depth information on a psychologist who was instrumental in shaping psychology as we know it today. These biographies make psychology more personal for students, and provide them with knowledge of the important figures in the field, including historically important psychologists like Sigmund Freud, William James, John Watson, and Abraham Maslow, and contemporary psychologists such as Elizabeth Loftus, Stanley Milgram, Anne Anastasi, and Robert Sternberg. New to this edition is a Biographical Highlight of early black American psychologists.

At the end of each chapter is a review, consisting of a brief summary of the main points in the chapter. Each summary paragraph is keyed to a Chapter Objective found at the beginning of the chapter. For example, in chapter 2, "Psychobiology," Objective 2 asks students to identify the parts of a neuron, and in the Chapter Review, number 2 describes the neuron as having a cell body, dendrites, and an axon. I regard this as a key feature of the text, helping students learn the material by providing immediate specific feedback. One suggestion for effective studying is for students to write out answers to the Chapter Objectives and then check their answers in the Chapter Review.

**CHAPTER REVIEW** 

A purposeful program of illustration was included in making this book. Many of the figures extend the text material by presenting details of research studies or illustrating theories. This edition has many charts that help summarize key points. The photographs help make the concepts clear to students by presenting examples. Figures are expressly referred to when they contain research data that is important in understanding a concept, and otherwise appear on the same page as the text material. The captions provide information that extends or supports the text and can be used by students as a quick review. New to this edition is a four-page insert of full-color illustrations covering the topics of fetal development, visual perception, and the study of the brain.

**FIGURES** 

An important feature is the extensive system of cross-references used throughout the text to emphasize the importance of the interrelatedness of principles in psychology.

**CROSS-REFERENCES** 

Important terms and concepts are underlined in the text and defined in the glossary at the end of the text. Other important concepts are in italics. In addition, the glossary items for each chapter are included in the corresponding chapter of the student study guide that accompanies the text, so that students may have ready access to the definitions when they study.

**GLOSSARY** 

I have written all the supplements in conjunction with the textbook. For students, there is the Study Guide to Accompany Psychology: A Concise Introduction, 3rd Edition, which includes both learning and self-testing activities designed to reinforce and extend the material in the textbook. For instructors, a teaching resource manual, Teaching and Testing From Psychology: A Concise Introduction, 3rd Edition, is available, and contains a variety of aids for teaching, including discussion suggestions, classroom activities, audiovisual information, and an array of practical tips to improve teaching. The testbank included in the teaching resource manual, Testing From Psychology: A Concise Introduction, 3rd Edition, contains a wide array of test items for measuring student accomplishments in learning concepts and principles of psychology. A microcomputer test program, EZ TEST® to Accompany Psychology: A Concise Introduction, 3rd Edition, is designed to help teachers prepare tests for students. Transparency masters are available to help students visualize the important concepts while in the classroom. Also available is a computer-assisted study program. All these supplements have been carefully coordinated for maximum effectiveness.

**SUPPLEMENTS** 

Because this book is concise, instructors of psychology will be able to expand on important topics and assign entire chapters to students. The use of frequent cross-

**FLEXIBILITY** 

references to other chapters where topics are also discussed makes it easy for students to find related material. Instructors will also be able to use outside readings or short books for discussions of specific topics. One choice might be Annual Editions: Psychology, an anthology of current readings in psychology issued in a new edition each spring. Many of the readings parallel discussions in the text and provide students additional insight into psychology. Taking Sides: Clashing Views on Controversial Psychological Issues is another option for those who wish to use a more structured tool to involve students in issues of concern in psychology today. Because of the low price of Psychology: A Concise Introduction, 3rd Edition, students are able to purchase a supplemental reader along with the textbook for less expense than the typical text alone costs.

#### ACCURACY, CURRENCY, AND RESEARCH

Psychology is an evolving science, and it is important to make sure that students have accurate and current information about the research findings in the field. I have checked and rechecked all of the sources in *Psychology: A Concise Introduction, 3rd Edition.* Many of the references in the book are from the recent decade, but the classic theories and historical research are also included for a full picture of psychology. The findings and theories that are discussed in the book have all been derived from important research studies and are documented according to standard practice. Students can easily find a particular citation in the References section.

#### APPLICATION

Memorizing numerous theories and definitions is of little use to students unless they can use the theories and definitions to better understand people and their behavior. I have tried to help students appreciate the importance of the information gained from psychological research by showing them how it is applied to everyday situations. In addition to the Applications in each chapter, I have included sections on practical applications in many other places in the book. For example, in chapter 6, "Learning," special in-text sections explain applications of operant and classical conditioning. Time and stress management techniques are discussed in chapter 12, "Adjustment and Health." Procedures for applying for a position in business are discussed in chapter 16, "Applied Psychology." Compliance techniques are discussed in chapter 15, "Social Psychology," and relaxation techniques are described in chapter 14, "Therapy." Each chapter presents the basic theoretical background of the important topics in psychology and also shows how these principles are applied to everyday life.

### RELEVANCE AND CHALLENGE

Students do better when they can relate topics they are studying to their personal lives. I have attempted to help students feel that the information presented is personal and relevant to each of them. Thus I have provided a variety of situations in which students are challenged to think about the issues. The Applications in each chapter raise issues in which students evaluate their own beliefs and feelings. In this edition I have attempted to introduce cultural and ethnic viewpoints where relevant.

#### **ORGANIZATION**

The organization of *Psychology: A Concise Introduction, 3rd Edition* is traditional. Part 1, "Foundations," presents the basic foundations for studying psychology, including history and methods, and the topics of biology and human development. In Part 2, "Perceptual Processes," the areas of sensation, perception, and consciousness are reviewed. In part 3, "Learning and Cognitive Processes," students learn about learning, memory, language, thinking, and intelligence. In

Part 4, "Motivation and Emotion," students are presented with the theories and research findings concerned with motivation and emotion. In Part 5, "Personality and Adjustment," personality assessment and theories are presented, along with material on stress, adjustment, and health. Part 6, "Psychological Disorders and Therapy," covers the areas of abnormal psychology and therapy. And Part 7, "Social Processes," examines social psychology and applied psychology.

Writing a textbook takes much more of just about everything than I ever imagined. Five years ago the first edition was published. Now, I have completed the third edition, which I believe is much improved over the first two editions, and combines all of the elements of a successful teaching program for the instructor. I am very proud of the finished product, and hope that you find it extremely useful, relevant, challenging, exciting, and informative. I love teaching psychology and have attempted to convey my enthusiasm for the subject here.

Although only one name appears on the cover, many individuals have contributed in countless ways to the text. A number of psychologists and instructors reviewed the book at various stages in the writing process. I am particularly fortunate to have colleagues who spent hours reading parts of chapters or the entire book.

I wish to thank the following whose ideas and suggestions were immeasurably valuable in guiding my writing and revising efforts for the third edition: Kerm Almos, Capital University; Edward C. Caldwell, West Virginia University; Mary Ann Dickman, Marion Technical College; Carl R. Gaetano, Cuyahoga Community College; Stephen Hamilton, Mt. San Antonio College; Marge Hazelett, Ohio State University; James L. Lloyd, Western Wisconsin Technical Institute; Sara Staats, Ohio State University; and Peter Suedfeld, University of British Columbia. The specific feedback from Ed Caldwell was singularly beneficial throughout the revision process. I also want to acknowledge the special contribution of Evelyn Blanch, Wilberforce University, for her suggestions on black psychology issues and minority concerns.

Others who have been extremely helpful with previous editions of the book include: Edward Arees, Northeastern University; John Broida, University of Southern Maine; Robert Bruel, Kean College of New Jersey; Ernest Chavez, Colorado State University; Dan Christie, Ohio State University; Michael Compton, University of Hawaii; Christopher Cozby, California State University-Fullerton; Gary Dunbar, Central Michigan University; Thomas Eckle, Modesto Junior College; Robert Gordon, Wittenberg University; Shelia Greenlee, Ohio State University; W. Richard Krall, South Central Community College; James Lamiell, Georgetown University; Gerhard Lang, Montclair State College; Richard McCrady, New Mexico State University; Marilyn Milligan, Santa Rosa Junior College; Alicia O'Neill, Monterey Peninsula College; Chris Paterson, University of Miami; Robert Plutchik, Albert Einstein College of Medicine; Mary Helen Spear, Prince George's Community College; Larry Vandervert, Spokane Falls Community College; Gary Verett, Richland College; and David Wolfe, Ocean County College.

Students, of course, are particularly important in the final evaluation of a textbook, and during the writing and revising of this book, many students helped review, critique, and proofread sections. Over 300 students provided in-depth critiques of each chapter of the second edition. Those who contributed significantly to the project include Linda Banks, Kathy Barkley, Mickey Bloom, Ray Coleman, Chris Cover, Pat Ellefson, Linda Feltner, Meg Hiss, Julie Hoffman, Joan Jernigan, Kim Kurts, Sandi Larcomb, Jennifer Levitsky, John Matthews, Susan Matthews, Glenn McCleese, Kari McDonough, Debbie Monroe, Craig Philips, Ed Shirley, Susie Sobas, Juli Swartz, Tina Thompson, Mary Trimmer, Lynn Vance, Gretch Walker, Roger Wren, and Sue Yanok.

**ACKNOWLEDGMENTS** 

The Dushkin Publishing Group has been outstanding in its support and guidance. Especially important in ensuring an excellent product are publisher Rick Connelly, and managing editor John Holland. I also very much appreciate the efforts of Pam Petersen in obtaining the figures and illustrations for this book. I am grateful, too, to Darylle Steiner and the entire sales service staff for their continuing efforts in providing me with valuable information from the many users of the text. In the first edition I acknowledged the sterling efforts of Michael Werthman in preparing my manuscript. In the second edition I gave special credit to Marcuss Oslander for her valuable criticism and excellent editing skills. In this edition, I wish to acknowledge the truly outstanding editorial work of Bob Mill. He caught every weak spot and his suggestions helped tremendously to improve the readability of the book.

I would like to thank my family, whose patience, help, feedback, and understanding have all been extremely valuable through the project. My wife, Bernie, and children Terry, Karen, and Tommy have been supportive throughout the revision process and have made sacrifices so that I could work on the book. Bernie again typed and proofread much of the revised manuscript. My son Terry even field-tested it when he used the book in his psychology course. Once again I can finally tell my friends and colleagues that I am doing something other than "revising my book."

Terry F. Pettijohn

## To the Student

#### AN INVITATION TO PSYCHOLOGY

Psychology is an exciting field that will contribute much to your life. This book serves as an integral part of your course in psychology. It will help you in numerous ways during the course and afterwards. A little effort on your part in noting the format and goals of the textbook, and the suggested study procedures, will pay off in an increased understanding of psychology (and in a better course grade).

As you read this textbook, you will learn about many facts, theories, and applications of psychological information that will give you a working knowledge of what psychology is all about. Many of these concepts are interrelated, and you will learn to identify the principles of psychology every day of your life.

You will also gain a better understanding of your own behavior and the behavior of those around you. You will better understand motivation, personality, social interactions, and biological forces on behavior. This will help you make better decisions concerning what you want to do and why other people behave as they do. Ultimately, this should result in increased happiness and successful adjustment for you.

I think psychology is the most exciting discipline, in part because it is an ongoing activity. We don't have all of the answers, and current research continuously provides us with new information, as evidenced by the large number of references from the 1980s and 1990s. I really hope you enjoy the book, and that it helps you better understand psychologists, psychological research, and of course, yourself.



#### HOW TO STUDY FROM PSYCHOLOGY: A CONCISE INTRODUCTION, 3rd EDITION

Learning is a complex adventure that involves a variety of approaches. You will learn much in the classroom as well as from reading and studying the book. There are some procedures that help enhance your learning from your book.

In chapter 7, "Human Memory," we discuss the SQ5R study technique. This procedure requires that you survey a chapter, ask questions, read carefully, record the main ideas, recite to ensure understanding, review the material, and then reflect on what you have learned. This is an excellent study procedure, and is explained in more detail in Study Guide to Accompany Psychology: A Concise Introduction, 3rd Edition.

Psychology: A Concise Introduction, 3rd Edition has been designed so you can effectively learn from it. It has a number of important characteristics that help guide you through the learning process. For every chapter you study, there are several steps you should take to enhance your learning:

- 1. SURVEY the chapter. Examine the brief outline at the beginning of the chapter, read the introductory paragraph, quickly read the introductory story, and then skim the rest of the chapter, noting the major headings and points of interest. This skimming is designed not to provide details, but rather to give you an overall picture or preview of what you will be covering.
- 2. QUESTION what you will be learning. A unique feature of the book is the incorporation of the Chapter Objectives at the beginning of the chapter. Use these to develop questions about important material in the chapter. You will notice that each objective corresponds to a major section of the textbook, usually identified with a heading. In addition, the book has been constructed so that each Chapter Objective is discussed in the Chapter Review at the end of the chapter. Take the objectives and turn them into questions as you read the chapter.
- 3. READ the chapter carefully, paragraph by paragraph, trying to identify the main ideas and important details in each section. Note that there are usually 3 to 5 main sections, with several detailed sections under each main section. You might want to read only one section before you stop and review what you have learned. But carefully read each section, as well as the special Applications that provide insight into how psychology is applied to everyday life. Take time to think about how you feel about the issues raised in the chapter. The important point in reading is that you learn and understand the information being presented.
- 4. RECORD the main ideas in each section. This encourages you to read the book actively to discover the important ideas contained in it. You can underline key words, write important points in the margin, or write a summary in your notebook. Keep your writing brief and focus on the really important ideas that you will need to remember for your test.
- 5. RECITE what you have learned by returning to the Chapter Objectives and writing a very brief response to each objective, then check your responses with the corresponding items in the Chapter Review. You might orally give your responses, but only if you really write them can you be absolutely sure you actually have learned the material. If you have problems, you can at this time go back to the section in the book and study the material again until you do learn. Also, using Study Guide to Accompany Psychology: A Concise Introduction, 3rd Edition at this time will help ensure that you master the main ideas and important details. You should also look at the underlined terms in each chapter and see if you can briefly write definitions, which can be checked for accuracy with the glossary.
- 6. REVIEW what you have learned by quickly going back over the outline, Chapter Objectives, and Chapter Review. Check to make sure that everything makes sense to you, and that you have no questions. Reviewing is a step that you should do periodically to make sure you don't forget anything. Again, the study

guide will help you review the important information, and should be used on a regular basis.

7. REFLECT on the main ideas that you have learned. This step allows you to think critically about the important issues raised in the chapter. It is important to take some time to organize the information you have recently learned. Here you can develop examples and applications of the major principles, and evaluate the various theories and viewpoints. This helps you remember and use the information more effectively.

Study Guide to Accompany Psychology: A Concise Introduction, 3rd Edition is an integral part of your study program, and should be incorporated into the process as much as possible. After you read the textbook and record the main ideas is the ideal time to recite, review, and reflect with the study guide. This will allow you to identify the major concepts presented in the chapter, study the relevant theories of psychology, and evaluate your knowledge of the material through practice tests.

For each chapter in the textbook, the study guide has a number of important features. There is a CHAPTER PRETEST to allow you to discover whether there are any overall weaknesses in your understanding of the material. The REVIEW ACTIVITIES are designed to help you master the concepts, and include working with the special features, such as the Applications and Biographical Highlights, as well as a Programmed Review of the main ideas in the chapter. The CHAPTER OBJECTIVES REVIEW provides an opportunity to check your general understanding of the key concepts in the chapter. The CHAPTER OBJECTIVE EXERCISES are designed to generate critical thinking of the applications and implications of the principles of psychology. The CHAPTER POSTTEST gives you one last chance to assess your readiness for a test. And for those who wish to go beyond the normal expectations, the USEFUL READINGS provide suggestions for studying topics in more depth. The CHALLENGE ACTIVITIES provide enriching experiences that should help you critically evaluate general psychological concepts. The CROSSWORD PUZZLES help you learn the terms and concepts that are important in each chapter. I designed and wrote the study guide to make sure it enhanced your learning experience. If you follow the study procedure outlined above, you should have no difficulty learning the material of introductory psychology.

Finally, I hope you will share my enthusiasm for and enjoyment of the study of behavior and cognition. Good luck in your exciting learning adventure.

Terry F. Pettijohn

# Contents in Brief

	Preface	V
	To the Student	xix
PART I	FOUNDATIONS 2	
1	The Study of Psychology	4
2	Psychobiology	26
3	Development	48
•		
PART II	PERCEPTUAL PROCESSES 74	
4	Sensation and Perception	76
5	Sleep and Consciousness	104
	Steep and Commission	
PART III	LEARNING AND COGNITIVE PROCESSES	126
6	Learning	128
7	Human Memory	154
8	Language and Intelligence	176
PART IV	MOTIVATION AND EMOTION 206	
9	Motivation	208
10	Emotion	232
PART V	PERSONALITY AND ADJUSTMENT 256	
11	Personality	258
12	Adjustment and Health	280
	•	
PART VI	PSYCHOLOGICAL DISORDERS AND THERAPY 302	
13	Psychological Disorders	304
14	Therapy	324
		321
PART VII	SOCIAL PROCESSES 344	
15	Social Psychology	346
16	Applied Psychology	376
_ 2	11	2.3
	Glossary	399
	References	429
	Index	455

# **Contents**

Preface v To the Student xix		2		
	Psychobiology 26			
1 The Study of Psychology 4  Chapter Objectives What is psychology? The goals of psychology The history of psychology Structuralism Functionalism Behaviorism Gestalt psychology Psychoanalysis Current approaches to the study of psychology Subfields of psychology Methods of research Ethical considerations in research	4 6 6 7 8 9 10 11 12 12 13 15	Chapter Objectives What is biological psychology? The neuron The neural impulse The synapse Central nervous system The spinal cord The brain Peripheral nervous system The somatic nervous system The autonomic nervous system The endocrine system Heredity and behavior Basic genetic principles Behavior genetics Chapter Review	262 282 293 303 323 333 383 394 404 415 424 434	
Ethical considerations in research Naturalistic observation	16 17	Development 48		
The case study The interview method The survey method The testing method The experiment Correlation research Measurement in psychological research Descriptive statistics Inferential statistics Chapter Review	18 18 18 19 19 21 22 22 24 25	Chapter Objectives What is development? Prenatal development and birth Infancy Sensory development Motor behavior development Personality development Attachment Childhood Social development Freud's theory of personality development	48 50 53 53 54 56 56 58 58	

	Piaget's theory of cognitive development	60	5	
	Kohlberg's theory of moral development	63	Sleep and Consciousness 104	
	escence	64	Sleep and Consciousness 104	
	Physical development and puberty	64	Chapter Objectives	104
	Personality and social development	64	What is consciousness?	106
	Erikson's psychosocial life-span approach	65	Sleep	107
	thood	66	The two types of sleep	107
	Physical development	67	Theories of sleep	110
	Adult personality and social development	67	Dreams	111
	Cognitive development in older persons	70	Sleep disorders	113
	Psychological stages of dying	71	Psychoactive drugs	114
(	Chapter Review	73	Depressants	115
			<b>Opiates</b>	116
	DEDOCRATIAL DOCCECCEC	74	Stimulants	116
PART II	PERCEPTUAL PROCESSES	74	Psychedelic drugs and marijuana	118
			Antipsychotic drugs	120
4			Hypnosis	120
_			Meditation	122
Sensation	n and Perception 76		Chapter Review	125
(	Chapter Objectives	76		
	are sensation and perception?	78		
	ory processes	78	PART III LEARNING AND COGNITIV	Æ
	Overview of the senses	78	PROCESSES 126	
1	Fransduction and sensory adaptation	79		
-	Measurement of sensation	80	6	
Visio		82	. 0	
	he eye	82	Learning 128	
	/isual processes	84	Charter Oltretter	100
	heories of color vision	84	Chapter Objectives	128
_	l perception	85	What is learning?	130 130
	Perceptual constancy	85	Classical conditioning	
	Perceptual organization	87	Classical conditioning terminology	132
	Depth perception	90	Basic principles of classical conditioning	132
	Perception of motion	92	Conditioned taste aversion	136
	/isual illusions	92	Applications of classical conditioning	137
Heari	ing	94	Operant conditioning	138
	he ear	95	Shaping (successive approximation)	139
ŀ	learing processes	96	Basic principles of operant conditioning	140
	Auditory perception	97	Reinforcement	142
	hemical senses	97	Aversive conditioning	145
S	imell	97	Punishment	145
	aste	98	Applications of operant conditioning	146
	kin and body senses	99	Comparison of classical and operant	140
	ain	99	conditioning	148
	emperature	100	Cognitive learning	148
	Linesthesis	101	Insight	148
	he vestibular sense	101	Latent learning and cognitive maps	149
-	Chapter Review	103	Observational learning	150
		100	The biological constraints on learning	151
			Chapter Review	153

7		PART IV MOTIVATION AND	
Human memory 154		EMOTION 206	
Chapter Objectives	154	9	
What is memory?	156	-	
Memory processes	157	Motivation 208	
Stages of memory storage	157	Chapter Objectives	208
Sensory memory	158	What is motivation?	210
Short-term memory	159	Theories of motivation	210
Long-term memory	162	Instinct theories	210
Forgetting	166	Drive theory	213
Verbal learning and memory	166	Incentive theory	214
Measures of retention	167	Arousal theory	214
Theories of forgetting	168	Maslow's humanistic theory	
Improvement of memory	170	· · · · · · · · · · · · · · · · · · ·	216
Memory enhancement techniques	170	Cognitive theory Biological motives	218
SQ5R Study technique	172	<del>-</del>	218
Biology of memory	173	Hunger Thirst	218
Chapter Review	175		221
		Sexual motivation	222
_		Stimulus motives	225
8		Exploration and curiosity	225
Language and Intelligence 176		Competence	226
Language and intempence 170		Learned social motives	226
Chapter Objectives	176	Achievement	227
What is cognition?	178	Power	228
Language	178	Affiliation	228
The structure of language	178	Chapter Review	231
Language development in children	180		
Theories of language development	180	10	
Thinking	183	10	
Language and thought	183	Emotion 232	
Concept formation	183		
Problem solving and creativity	185	Chapter Objectives	232
Theories of problem solving	185	What is emotion?	234
Problem-solving effectiveness	187	Characteristics of emotion	235
Creativity	189	Physiology of emotion	235
Definition and theories of intelligence	190	Development and classification of emotions	236
Definition of intelligence	191	Theories of emotion	238
Theories of intelligence	191	The James-Lange theory	238
Measurement of intelligence	192	The Cannon-Bard theory	239
Characteristics of tests	192	The Schachter-Singer arousal-cognition	
The Stanford-Binet intelligence scale	193	theory	239
The Wechsler intelligence scales	195	The Plutchik functional theory	240
Influences on intelligence	196	The cognitive-motivational-relational	
Genetic influences on intelligence	197	theory	240
Environmental influences on intelligence	200	The opponent-process theory	241
The extremes of intelligence	202	Interpersonal attraction: liking and loving	241
Mental retardation	202	Liking	242
The intellectually gifted	204	Theories of love	242
Chapter Review	204	Communication of emotion	246
		Facial expressions	246
		Nonverbal communication	244
		Human sexuality	249
		Sexual determination	249