Copyright © 2011 by Jones and Bartlett Publishers, LLC
All rights reserved. No part of the material protected by this copyright may be reproduced or utilized in any form, electronic or mechanical, including photocopying, recording, or by any information storage and retrieval system, without written permission from the copyright owner.

The authors, editor, and publisher have made every effort to provide accurate information. However, they are not responsible for errors, omissions, or for any outcomes related to the use of the contents of this book and take no responsibility for the use of the products and procedures described. Treatments and side effects described in this book may not be applicable to all people; likewise, some people may require a dose or experience a side effect that is not described herein.

Drugs and medical devices are discussed that may have limited availability controlled by the Food and Drug Administration (FDA) for use only in a research study or clinical trial. Research, clinical practice, and government regulations often change the accepted standard in this field. When consideration is being given to use of any drug in the clinical setting, the health care provider or reader is responsible for determining FDA status of the drug, reading the package insert, and reviewing prescribing information for the most up-to-date recommendations on dose, precautions, and contraindications, and determining the appropriate usage for the product. This is especially important in the case of drugs that are new or seldom used.

Production Credits
Publisher, Higher Education: Cathleen Sether
Acquisitions Editor: Shoshanna Goldberg
Senior Associate Editor: Amy Bloom
Production Director: Amy Rose
Associate Production Editor: Julia Waugaman
Associate Marketing Manager: Jody Sullivan
V.P., Manufacturing and Inventory Control: Therese Connell

Library of Congress Cataloging-in-Publication Data
Blackman, Melinda C. (Melinda Carroll)
Nutrition psychology: improving dietary adherence / Melinda C. Blackman, Colleen A. Kvaska.
p. ; cm.
Includes bibliographical references and index.
ISBN 978-0-7637-8040-1
RA784.B5519 2011
613.2—dc22
2010000295
6048

Printed in the United States of America
14 13 12 11 10 10 9 8 7 6 5 4 3 2 1

© Jones and Bartlett Publishers, LLC. NOT FOR SALE OR DISTRIBUTION.
Contents

Acknowledgments ................................................. vii
Introduction ......................................................... ix
About the Authors .................................................... xi
Reviewers ............................................................... xiii

Chapter 1  The Discipline of Psychology and Nutrition
     Adherence: A Logical Partnership ..................... 1
     A Word About Psychology ............................... 2
     Gathering Information with Various Research Methods 2
     Theoretical Perspectives ................................. 6
     The Layout of the Textbook .............................. 14

SECTION I  THE BEHAVIORAL PERSPECTIVE ................. 17

Chapter 2  Basic Forms of Learning from Our Environment . . . . . . . . . . . . . . . . 19
     Behaviorism and Its Philosophical Roots ............. 20
     Three Forms of Learning .................................. 21
     Applicable Strategies for Nutrition Adherence .......... 24
     Incorrectly Associating Fatigue with Hunger .......... 27
     Incorrectly Associating Eating with an Improved Mental State ........ 28

Chapter 3  Theories of Behavioral Change ....................... 35
     Behavioral Change Processes ............................ 36
     The Theory of Planned Behavior ....................... 36
     How Making a Public Commitment Effects Our Future Behavior ........ 42
     Transtheoretical Model of Change ...................... 46
     Applying the Transtheoretical Model to Diet Adherence .......... 48
     Social Learning Theory ..................................... 50
     Applying the Social Learning Theory to Nutritional Adherence .... 51
# Contents

## SECTION II COGNITIVE PROCESSES

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Attitudes and Eating Patterns</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The Field of Cognitive Psychology</td>
</tr>
<tr>
<td></td>
<td>Attitude Formation and Change</td>
</tr>
<tr>
<td></td>
<td>Emotion and Attitude Change</td>
</tr>
<tr>
<td></td>
<td>Implicitly Primed Attitudes</td>
</tr>
<tr>
<td></td>
<td>Self-Persuasion–Cognitive Dissonance</td>
</tr>
<tr>
<td></td>
<td>Resistance to Attitude Persuasion</td>
</tr>
<tr>
<td></td>
<td>The Application of Attitude Research to Nutrition Adherence</td>
</tr>
<tr>
<td></td>
<td>Inducing Change Through the Persuasive Source and the Message</td>
</tr>
<tr>
<td></td>
<td>Inducing Change Through Emotional Appeals</td>
</tr>
<tr>
<td></td>
<td>Inducing New Attitudes Through the Priming of Our Subconscious</td>
</tr>
<tr>
<td></td>
<td>The Negative Consequences of Subliminal Stimuli: Eating on Autopilot</td>
</tr>
<tr>
<td></td>
<td>Inducing an Eating-Related Attitude Change Through Self-Persuasion</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Perception, Visualization, and Eating Patterns</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The Process of Perceiving Our Environment</td>
</tr>
<tr>
<td></td>
<td>Errors in the Perception Process</td>
</tr>
<tr>
<td></td>
<td>Visualization</td>
</tr>
<tr>
<td></td>
<td>The Process of Perception and Its Effect on Eating-Plan Adherence</td>
</tr>
<tr>
<td></td>
<td>Promoting Eating Adherence by Avoiding Perceptual Errors</td>
</tr>
<tr>
<td></td>
<td>Visualization as a Means to Promoting Nutrition Adherence</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Self-Perception and Eating Patterns</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The Self-Concept</td>
</tr>
<tr>
<td></td>
<td>The Development and Change of the Self-Concept</td>
</tr>
<tr>
<td></td>
<td>Application of the Self-Perception Process to Nutrition Adherence</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Emotion Perception and Eating Patterns</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Experiencing an Emotion</td>
</tr>
<tr>
<td></td>
<td>Types of Emotions</td>
</tr>
</tbody>
</table>
Application of Emotion Perception to Nutrition Adherence ...................... 119
Mood States and Eating Behavior ................................................. 120
Perceiving Physical Hunger Versus Emotional Hunger ........................ 123
Effective Solutions for Emotion-Based Hunger .................................. 124
Correctly Perceiving Mood States and Emotional Eating ....................... 125
Solutions for Managing Emotional Eating ...................................... 127

SECTION III EVOLUTIONARY PROCESSES ...................................... 133

Chapter 8 Evolutionary Instincts and Eating Patterns ......................... 135
Evolutionary Psychology ............................................................ 136
Evolutionary Psychology's Explanation for Obesity ............................ 136
Evolutionary Psychology's Explanation for Anorexia Nervosa in Western Society .................................................. 143
Strategies to Counteract Instinctual Eating Patterns ............................ 146
Understanding One's Instincts ....................................................... 148

SECTION IV PSYCHODYNAMIC PERSPECTIVE ................................... 153

Chapter 9 Psychoanalytic Approach and Eating Patterns .................. 155
Four Key Components to Psychoanalytic Theory ............................... 156
Defense Mechanisms and Anxiety .................................................. 159
A Critique of the Psychoanalytic Theory ........................................ 163
Application of the Psychoanalytic Theory to Eating Behavior ............... 163

SECTION V CROSS-CULTURAL PERSPECTIVE .................................. 171

Chapter 10 Cross-Cultural Differences and Eating Behavior ............... 173
Psychology and Culture ............................................................... 174
Eating Habits ............................................................................. 175
Learned Eating Behaviors ............................................................. 175
Religious Dietary Behaviors .......................................................... 177
Food Patterns of Specific Populations ............................................. 179
Health Concerns of Minority Populations ........................................ 182
Applying Knowledge of Cultural Issues to Nutrition Adherence ........ 182
Summing It Up .......................................................................... 186
SECTION VI THE BIOLOGICAL PERSPECTIVE ....................... 191

Chapter 11 Biology and Eating Behavior ...................... 193
A Brief History of Biopsychology ......................... 194
Research Methods Used by Biopsychologists ............. 194
Research Findings ........................................ 195
Applying Knowledge of Biopsychology to Nutrition Adherence .... 203

Chapter 12 Sleep, Water Intake, and Eating Behavior ......... 211
The Basics About Sleep .................................. 212
Sleep Deprivation and Hunger ............................ 214
Applying Psychology to Facilitate Adequate Sleep ......... 216
Water Intake and Metabolism ............................. 217
Applying Psychology to Staying Hydrated ................. 220

Index ......................................................... 225
Acknowledgments

We are very grateful for the expertise and support of our dedicated editors at J&B, Katey Bircher and Maro Gartside. Thanks for bringing this project to fruition! A special thanks to our agent Stan Wakefield for his hard work and much-appreciated advice along the way. We would also like to thank our reviewers for their time and insight.

M.B. and C.K.

I would like to thank my family for their love and support during this project and encouraging me to follow my dreams. Also, a big thank you goes out to my academic mentor, Dr. David Funder, who is a wonderful role model and made my academic training first rate! Last, I would like to say thank you to my coauthor Colleen. I so enjoyed working on this project with you and am very grateful for all of your knowledge and wisdom.

M.B.

Thank you to Melinda for providing me the opportunity to collaborate and contribute to this unique and insightful textbook.

C.K.
Introduction

For years, the field of psychology has been applied to other disciplines to enhance our quality of life. Psychology has been applied to the field of sports so that athletes can maximize their ability on the playing field and to the legal system so that the validity of eyewitness memory can be better understood. Businesses have long relied on psychologists for selection methods and tests for personnel, yet one discipline has yet to be tapped—the field of nutrition. As obesity and type II diabetes continue to dramatically rise in the United States, the timing for a partnership between the fields of psychology and nutrition (adherence) could not be more opportune. We are excited to bring you this unique partnership between the two disciplines in the form of this textbook.

This text was written with a variety of students and practitioners in mind. We believe that health science, kinesiology, and psychology students; nurses; nutritionists; and doctors, as well as patients, will benefit from the information and practical applications illustrated in this text. The text encompasses all types of dietary adherence programs such as gluten-free, weight-loss, low-sodium, and a nutritionally balanced regimen.

Psychological research has long shown that human behavior can be analyzed and understood from several different perspectives (e.g., behavioral, cognitive, biological, psychoanalytic). We have devoted each chapter in the text to a different psychological perspective while illustrating that perspective’s practical applications to nutrition adherence. The reader will become aware of how the environment, a person’s cognitions and emotions, one’s biology, and even the subconscious all play a role in the extent to which he or she adheres to a prescribed nutrition regimen. After presenting relevant research findings in each chapter, adherence strategies, application illustrations, and workbook-type exercises will be given.

We hope that this text will serve as a springboard for future collaborations between researchers in the fields of psychology and nutrition. May your journey through the text be enlightening!
About the Authors

Dr. Melinda Blackman is a professor of psychology at California State University–Fullerton. Dr. Blackman received her bachelor’s degree in psychology from Stanford University and her doctorate in psychology from the University of California–Riverside. Dr. Blackman teaches and conducts research on eating and exercise behavior at the university. She is also the author of *Mind Your Diet: The Psychology Behind Sticking to Any Diet* (2008).

Colleen Kvaska is an adjunct faculty member in the health science department at California State University–Fullerton and an instructor at Fullerton College. She received her bachelor’s degree in dietetics from Central Michigan University and her master’s degree in family and consumer sciences from California State University–Long Beach. Ms. Kvaska is a registered dietitian and certified diabetes educator. She has worked as a clinical dietitian for over 20 years.
Reviewers

Laurel Branen, PhD, RD, LD
Professor, Food and Nutrition
University of Idaho, Moscow

Cynthia A. Thomson, PhD, RD, FADA
Associate Professor, Nutritional Sciences
University of Arizona, Tucson