

TENTH EDITION

# Behavior MODIFICATION

WHAT IT IS AND HOW TO DO IT

Garry Martin  
Joseph Pear

The background of the cover is a close-up photograph of fossilized ammonite shells. The shells are light-colored, possibly beige or tan, and show distinct, concentric, ribbed patterns. They are embedded in a darker, textured rock matrix. The lighting creates shadows that emphasize the three-dimensional structure of the shells.

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What It Is and How to Do It

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**PEARSON**

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# DEDICATION

To

*Jack Michael, Lee Meyerson, Lynn Caldwell, Dick Powers, and Reed Lawson,  
who taught us so much and made learning so enjoyable*

and

*Toby, Todd, Kelly, Scott, Tana, and Jonathan, who live in a better  
world because of such dedicated teachers*

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# PREFACE

## About the Title of This Book

The title of this book is intended to reflect the tremendous depth and breadth of the entire field of behavior modification in a manner that is friendly and unthreatening. As emphasized throughout the book, behavior modification encompasses both applied behavior analysis and cognitive/behavior therapy. More than that, however, it also embraces the positive ways in which all of us influence the behavior of others. At the same time this book is not simplistic or “light weight.” On the contrary, especially in the “Notes for Further Learning,” it provides in-depth coverage of the latest research and theories on the complex and controversial issues in the field, and it endeavors to do so in a manner that is readily comprehensible to readers at a wide range of levels and with various interests—from students in their early college or university years to those in postgraduate studies, from the general reader to the serious scholar, and from novices to professionals in the area.

## About the Tenth Edition of This Book

This tenth edition of *Behavior Modification: What It Is and How to Do It*, like its predecessors, assumes no specific prior knowledge about psychology or behavior modification on the part of the reader. Those who want to know how to apply behavior modification to their everyday concerns—from solving some of their own personal behavior problems to helping children learn life’s necessary skills—will find the text useful. Mainly, however, this book is addressed to two audiences: (a) college and university students taking courses in behavior modification, applied behavior analysis, behavior therapy, the psychology of learning, and related areas and (b) students and practitioners of various helping professions (such as clinical psychology, counseling, education, medicine, nursing, occupational therapy, physiotherapy, psychiatric nursing, psychiatry, social work, speech therapy, and sport psychology) who are concerned directly with enhancing various forms of behavioral development.

From our separate experiences over the past 48 years in teaching members of both groups, we are convinced that both groups learn the principles of behavior and how to apply them most effectively when the applications are explained with reference to the underlying behavior principles on which they are based. For this reason, as our title implies, this book deals equally with both the principles and the tactics (i.e., the rules and guidelines for specific applications) of behavior modification.

Our goals and the manner in which we have attempted to achieve them can be summarized as follows:

1. *To teach the elementary principles and procedures of behavior modification.* Thus, we begin with the basic principles and procedures, illustrate them with numerous examples and applications, and increase the complexity of the material gradually. Questions for Learning distributed throughout each chapter promote the reader’s mastery of the material and ability to generalize to situations not described in the text. These questions can also be used for examination purposes in formal courses.
2. *To teach practical how-to skills, such as observing and recording; recognizing instances of reinforcement, extinction, and punishment and their likely long-term effects; interpreting behavioral episodes in terms of behavioral principles and procedures; and designing, implementing, and evaluating behavioral programs.* To accomplish this, we provide Application Exercises that involve other people and teach the reader about analyzing, interpreting, and developing programs for the behavior of others; and Self-Modification Exercises, which encourage the reader to analyze, interpret, and develop programs for his or her own behavior.
3. *To provide advanced discussion and references to acquaint readers with some of the empirical and theoretical underpinnings of the field.* This material is presented in the “Notes for Further Learning” section at the end of each chapter. These sections can be omitted without harm to the continuity of the text. Separate Questions for Learning on the Notes are provided for those instructors who wish to use them and as aids for students who wish to broaden their understanding of behavior modification. Instructors can also use information given in the Notes sections as springboards for lecture material.
4. *To present the material in such a way that it will serve as an easy-to-use handbook for practitioners concerned with overcoming behavioral deficits and excesses in a wide variety of populations and settings.*

The book is divided into six parts:

Part I (Chapters 1 and 2) introduces the behavioral orientation of the book and describes major areas of application of behavior modification techniques for improving a wide variety of behaviors of individuals in diverse settings.

Part II (Chapters 3–16) covers the basic principles and procedures of behavior modification. Each of the chapters begins with a case history drawn from the fields of child development, developmental disabilities, childhood autism, early education, coaching, or normal everyday adult adjustment. Numerous examples of how each principle operates in everyday life and how it can operate to the disadvantage of those who are ignorant of it are also given.

Part III (Chapters 17–19) provides more sophisticated perspectives on the principles discussed in Part II. Chapters 17 and 18 discuss ways in which to combine and apply the principles. Chapter 19 provides a behavioral view of motivation and includes insights on applying various motivational operations. Each of these three chapters also begins with a case history.

Part IV (Chapters 20–22) presents detailed procedures for assessing, recording, and graphing behavior and for evaluating the effects of behavioral treatments using single-subject research designs. Many instructors prefer to present much of this material quite early in their courses—sometimes at the beginning. Therefore, we have written these chapters so that they can be read independently of the rest of the book; they do not depend on any of the other material. We recommend that students be required to read these chapters prior to carrying out any major projects for their courses.

Part V (Chapters 23–26) deals with how the basic principles, procedures, and assessment and recording techniques are incorporated into effective programming strategies. In keeping with the rigorously scientific nature of behavior modification, we have placed heavy emphasis on the importance of empirically validating program effectiveness.

Part VI (Chapters 27 and 28) focuses on the profession of behavior therapy. This part of the book is not intended to teach students how to do behavior therapy, but rather to build the student's awareness of the field of behavior therapy and how it utilizes the principles of behavior modification. Chapter 27 discusses aspects of cognitive behavior therapy, acceptance and commitment therapy, and dialectical behavior therapy. Chapter 28 reviews behavioral and cognitive behavioral treatments of major psychological disorders.

Part VII (Chapters 29 and 30) expands the reader's perspective of behavior modification. Chapter 29 presents an overview of the history of behavior modification. Chapter 30 discusses the ethical issues in the field. Some instructors might think that these two chapters belong near the beginning of the book. However, we believe that the reader is more prepared to fully appreciate this material after obtaining a clear and thorough knowledge of behavior modification. Moreover, in this edition we have presented some basic historical highlights in Chapter 1 (see below), but go into history in more detail in Chapter 29. Although we placed the chapter on ethical issues at the end of the book, it is not because we believe that this topic is less important than the others. On the contrary, we stress ethical issues throughout the book, and, thus, the last chapter provides a reiteration and elaboration of this vital subject. We hope that after reading the concluding chapter, the reader will be fully aware that the only justification for behavior modification is its usefulness in serving humanity in general and its recipients in particular.

## Changes in the Tenth Edition

First, in Part II (“Basic Behavioral Principles and Procedures”), as suggested by several reviewers, we placed Respondent (Classical, Pavlovian) Conditioning in Chapter 3 (versus Chapter 14 in the 9th edition) in order to help the reader contrast it with Operant Conditioning principles and procedures now described in Chapters 4 through 14. Respondent and operant conditioning comparisons and interactions are still discussed in Chapter 15.

Second, we made a couple of changes in the sequence of operant conditioning chapters to be consistent with suggestions from reviewers and to make it easier for the reader to understand how some of the operant principles and procedures relate to each other.

Third, at the end of each of the operant conditioning chapters in the 9th edition we identified different types of pitfalls—distinct ways in which lack of knowledge of a principle or procedure can be problematic. In the tenth edition, as suggested by a reviewer, we give these pitfalls specific names to make it easier for the reader to remember them.

Fourth, as stated in Chapter 1, with the increasing prominence of Applied Behavior Analysis (ABA) we refer to ABA and behavior analysts increasingly throughout the book.

Fifth, as suggested by several reviewers and many of our students, we added more everyday examples to better illustrate the application of behavior principles in the everyday life of university students.

Sixth, throughout the book, we added many new up-to-date references to reflect recent developments in the field, and added some new notes to the “Notes for Further Learning” sections at the end of each chapter, and deleted old notes when warranted.

Finally, all chapters were revised to cover recent developments in this expanding field and to enhance the readability of the text. Some of the specific chapter revisions we made were as follows: In Chapter 1, we added “Some Historical Highlights of Behavior Modification,” and expanded the comparison of behavior modification to applied behavior analysis and cognitive behavior therapy. In Chapter 2, as suggested by four of the reviewers, we adjusted the length of some of the sections so that they are more easily handled. In Chapter 3 on respondent (classical, Pavlovian) conditioning (formerly Chapter 14 in the 9th edition), we added a new application of overcoming fear in a figure skater, and introduced operant learning (as a precursor to principles and procedures of operant conditioning in Chapters 4 through 14). As suggested by several reviewers, Chapter 4 on positive reinforcement was shortened and simplified in several ways. In Chapter 5, as suggested by a reviewer, we explained that we are far more commonly influenced by conditioned than unconditioned reinforcers. Chapter 6 on operant extinction was updated with current references. The “Shaping” chapter (Chapter 10 in the 9th edition) is now Chapter 7. We moved this chapter back to this spot, which is where it used to be in earlier editions, because shaping naturally follows reinforcement and extinction. Chapter 8 on schedules of reinforcement received considerable revision to make it easier for readers to understand the differences between the various schedules. As suggested by reviewers, Chapter 9 on stimulus discrimination and stimulus generalization was shortened and updated with recent references. Chapters 10 (Fading), 11 (Chaining), and 12 (Differential Reinforcement Procedures to Decrease Behavior) were edited and updated with recent references. In Chapter 13, Punishment, we redefined a “punisher” so that the new definition includes a response-cost punisher, and we updated the section “Should Punishment Be Used?” Chapter 14 (Escape and Avoidance Conditioning) and Chapter 15 (Pavlovian and Operant Conditioning Together) were revised to make the concepts easier for students to understand. To Chapter 16, Generality of Behavior Change, we added a new lead case that is more relevant to college students, and we made the writing less technical as suggested by a reviewer. Chapters 17 through 22 were very positively evaluated by reviewers, and they received some minor editing and new references. Chapter 23 on functional assessment was rewritten and updated in many respects. For Chapter 24, Planning, Applying, and Evaluating a Behavioral Program, the reviewers were very positive about the writing style but thought that it needed some examples. We therefore started off with a brief description of a case of overcoming a dog phobia in a 5-year-old child, and we referred to that case several times throughout that chapter to illustrate the various guidelines for programming. In the 9th edition, Chapter 25 on token economies included a section titled “Initial Steps in Setting Up a Token Economy,” followed by a section titled “Specific Implementation Procedures.” Because of the overlap of these two sections, we combined them into one section titled “Setting Up and Managing a Token Economy.” As suggested by reviewers, we altered the writing style to make it less formal, and shortened the chapter. In Chapter 26 on self-control, we updated some of the examples to make them more relevant to college students. In Chapter 27 we added discussion of dialectical behavior therapy. In Chapters 27 and 28, we updated the discussion of behavioral treatment of common clinical problems with outpatients. In Chapters 29 and 30, we added a number of stylistic changes to make the chapters more readable.

## **Instructor’s Manual with Tests and Practica**

One of our goals is to help students learn to think about behavior modification critically and creatively. Thus, in the Instructor’s Manual to accompany this text, we have included operational definitions of higher-order thinking based on Bloom’s taxonomy in the cognitive domain and have applied these definitions to the study questions in the text, which we refer to as “Questions for Learning” to more clearly indicate their purpose. Taking these thinking levels into account, we have provided an answer key to all of the Questions for Learning (including those on the “Notes for Further Learning” sections), indicating how students are expected to answer these questions on tests and exams in order to achieve a high level of thinking about the material. For instructors who wish to use option-based questions, a pool



of multiple-choice and true/false questions have been provided on a chapter-by-chapter basis. Finally, included in the Instructor's Resource Manual are 15 in-class practica or minilab exercises that have been developed and field-tested. Each exercise is designed to be completed by a group of two or three students during a regularly scheduled class. After students have studied and have been examined on relevant chapters, completion of a practicum helps them learn to talk about and apply behavior modification principles. Feedback from students indicates that the exercises constitute an excellent teaching tool.

## PowerPoint Presentation

The PowerPoint presentation is an exciting interactive tool for use in the classroom. Each chapter pairs key concepts with images from the textbook to reinforce student learning.

## Acknowledgments

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## To the Student

This book is designed to help you learn to talk about and apply behavior modification effectively. You need no prior knowledge about behavior modification to read and understand this text from beginning to end. We are confident that students at all levels—from beginners to advanced—will find the text informative and useful.

Behavior modification is a broad and complex field with many ramifications. Realizing that some students will require or want a deeper knowledge of behavior modification than others, we have separated the more elementary material from the material that demands more thought and study. The former material is presented in the main body of the text. The latter material is presented at the end of each chapter in the section called “Notes for Further Learning” (NfFL). The numbers in the margin of the main text refer you to the corresponding numbered passages in the NfFL sections. How you use these sections is up to you and your instructor. You can ignore them altogether and still obtain a good working knowledge of the principles and tactics of behavior modification because the main text does not depend on the material in the NfFL sections. We believe, however, that many students will find these sections very informative and that many instructors will find the material useful in stimulating class discussion and imparting additional background information.

Another major way in which we have attempted to help you learn the material is by providing guidelines on the use of all the behavior modification methods discussed in the text. These guidelines should prove useful as summaries of the material as well as in helping you to actually apply the methods

described in the text. To assist in your learning we have also provided a glossary of important behavior modification terms at the back of this book.

Most chapters present numerous Questions for Learning and Application Exercises (including “Self-Modification” Exercises). The Questions for Learning are intended to help you check your knowledge of the material when preparing for quizzes and exams. The Application Exercises are intended to help you develop the practical skills you will need to complete behavior modification projects effectively.

To help make your study productive and enjoyable, we progress from the simpler and more intrinsically interesting material to the more difficult and complex material. This is also true of the writing style. But a word of caution: *Do not be misled by the seeming simplicity of the earlier chapters.* Students who conclude that they are skilled behavior modifiers after they have learned a few simple behavior modification principles unfortunately end up proving the old maxim that “a little knowledge is a dangerous thing.” If we personally had to pick the most important chapter in this book in terms of the knowledge and skills that define a competent behavior modifier, it would probably be Chapter 24. We therefore strongly suggest that you reserve judgment about your abilities as a behavior modifier until you have mastered Chapter 24 and all the preliminary material on which it is based.

We would also point out that—as emphasized in Chapter 30—organizations that regulate behavior modification have appeared and gained in stature and influence in the past few years. If you are considering applying behavior modification on any level, we strongly recommend that you check with the Behavior Analyst Certification Board ([www.bacb.com](http://www.bacb.com)) to determine how you may obtain the necessary qualifications.

With those words of caution, we wish you much success and enjoyment as you pursue your studies in this exciting and rapidly expanding field.

*G.L.M.*

*J.J.P.*

# TO INDIVIDUALS USING THIS BOOK TO STUDY FOR THE BEHAVIOR ANALYSIS CERTIFICATION BOARD® EXAMINATIONS

For individuals using this book to study for the Board Certified Behavior Analyst® (BCBA®) or the Board Certified Assistant Behavior Analyst® (BCaBA®) exam, the following are the chapters in this book where the content for the task list may be found:

Topics from the Fourth Edition Task List*	Relevant Chapters
<i>Section I: Basic Behavior-Analytic Skills</i>	
A. Measurement	1, 20, 21
B. Experimental Design	1, 22,23
C. Behavior-Change Considerations	24
D. Fundamental Elements of Behavior Change	3–19
E. Specific Behavior-Change Procedures	3–5, 10, 11, 13, 14, 17–19
F. Behavior-Change Systems	2, 7, 8, 10, 25, 26
<i>Section 2: Client-Centered Responsibilities</i>	
G. Identification of the Problem	1, 23, 24, 27, 28
H. Measurement	20–24
I. Assessment	20–24, 27, 28
J. Intervention	24–28, 30
K. Implementation, Management, and Supervision	24, 25
<i>Section III: Explain and Behave in Accordance with the Philosophical Assumptions of Behavior Analysis</i>	
Define and Provide Examples of Basic Concepts	1, 3-19, 29
Distinguish Between the Verbal Operants	19

\*Adapted from the Fourth Edition of the Behavior Analysis Certification Board® Task List. The Task List can be downloaded from: [http://www.bacb.com/Downloadfiles/TaskList/BACB\\_Fourth\\_Edition\\_Task\\_List.pdf](http://www.bacb.com/Downloadfiles/TaskList/BACB_Fourth_Edition_Task_List.pdf)

# CHAPTER 1

## Introduction

### LEARNING OBJECTIVES

**After studying this chapter, you will be able to:**

- Define *behavior*, *behavior modification*, and *behavioral assessment*.
- Describe how behavior modifiers view traditional psychological concepts such as intelligence and creativity.
- Summarize historical highlights of behavior modification.
- Discuss the relationship between behavior modification, applied behavior analysis, and behavior therapy.
- State some common misconceptions about behavior modification.

Many of society's best achievements—from democratic government to helping the less fortunate, and from great works of art to important scientific discoveries—as well as some of its most pressing health and social challenges—from unhealthy lifestyles to environmental pollution and from racism to terrorism—are firmly rooted in behavior. But what is behavior? Before attempting an answer, consider the following scenarios:

1. **Withdrawn behavior.** A class of nursery school youngsters is in the playground. While most of the children are playing, one little boy who has been diagnosed with autism sits quietly by himself, making no effort to join in the fun.
2. **Ineffective studying.** With two term papers due next week and a midterm exam at the same time, Sam is wondering how he is ever going to make it through his first year at university. Yet he continues to spend several hours each day on Facebook and YouTube.
3. **Performance nervousness.** Karen, a 14-year-old gymnast, is waiting for her turn to perform on the balance beam at a championship. Showing signs of extreme nervousness, she thinks to herself, "What if I don't perform well? What if I fall on my backflip? I can't believe how my heart is pounding."
4. **Campground littering.** Tom and Sally have just arrived at the place where they intend to set up camp and are looking in disgust and amazement at the litter left by previous campers. "Don't they care about the environment?" asks Sally. "If people keep this up," Tom says, "there won't be any nature left for anyone to enjoy."
5. **Migraine headaches.** While preparing dinner for her family, Betty was vaguely aware of a familiar feeling creeping up on her. Then, all at once, she felt nauseous. She looked around fearfully, knowing from past experience what to expect. "Tom, Joe," she called to her sons watching TV in the living room, "you'll have to finish fixing dinner yourselves—I'm having another migraine."
6. **Staff management.** Jack and Brenda were having coffee one morning at the Dairy Queen restaurant they owned. "We're going to have to do something about the evening staff," said Brenda. "When I came in this morning, the ice cream machine wasn't properly cleaned and the cups and lids weren't restocked." "That's only the tip of the iceberg," said Jack. "You should see the grill!"
7. **Irrational thinking.** Mary, after getting a poor mark on her first exam in her first year at college, thought, "I'll *never* be a good student. I *must* do well in *all* of my courses. My professor must think I'm an idiot."

Close inspection shows that each of the above vignettes involves some sort of human behavior. They illustrate a few of the many problems with which specialists in behavior modification are trained to deal. Each of these types of behavioral problems and many others are discussed in the following pages. Behavior modification, as you will see, is applicable to the entire range of human behavior.

## What Is Behavior?

Before we can talk about behavior modification, we must first ask, what do we mean by behavior? Some commonly used synonyms include “activity,” “action,” “performance,” “responding,” “response,” and “reaction.” Essentially, **behavior** is anything that a person says or does. Technically, behavior is any muscular, glandular, or electrical activity of an organism. (Note to reader: **Throughout the text, key terms appear in bold type. We encourage you to master them as you encounter them.**) Is the color of someone’s eyes behavior? Is blinking behavior? Are the clothes someone is wearing behavior? Is dressing behavior? If you said no to the first and third questions and yes to the second and fourth, we are in agreement. One of the goals of this book is to encourage you to begin thinking and talking specifically about behavior.

How about getting an “A” in a behavior modification course, or losing 10 pounds; are those behaviors? No. Those are *products of behavior*. The behavior that produces an “A” is studying effectively. The behaviors that lead to weight loss are resisting overeating and exercising more.

Walking, talking out loud, throwing a baseball, yelling at someone—all are *overt* (visible) behaviors that could be observed and recorded by an individual other than the one performing the behavior. As will be discussed in later chapters, the term *behavior* can also refer to *covert* (private, internal) activities that cannot be readily observed by others. However, in the field of behavior modification, private or covert behaviors do *not* typically refer to behaviors done in private, such as undressing in one’s bedroom with the door locked and the blinds closed. Nor do they usually refer to secretive actions, such as cheating on an exam. Rather, in behavior modification they more commonly refer to activities that occur “within one’s skin” and that therefore require special instruments or procedures for others to observe. For example, just before stepping onto the ice at an important competition, a figure skater might think, “I hope I don’t fall,” and he or she is likely to feel nervous (increased heart rate, etc.). Thinking and feeling are private behaviors, and are discussed further in Chapters 15, 27, and 28. Covert as well as overt behaviors can be influenced by the techniques of behavior modification.

Sometimes we think in words, called *private self-talk*, as illustrated by the figure skater in the previous paragraph. At other times we think by imagining. If you were asked to close your eyes and imagine a clear, blue sky, with a few white fluffy clouds, you would be able to do so. Imagining and private self-talk, in addition to being called *covert behaviors*, are sometimes referred to as *cognitive behaviors*.

Characteristics of behavior that can be measured are called *dimensions of behavior*. The *duration* of a behavior is the length of time that it lasts (e.g., Mary studied for 1 hour). The *frequency* of a behavior is the number of instances that occur in a given period of time (e.g., Frank planted 5 tomato plants in his garden in 30 minutes). The *intensity* or *force* of a behavior refers to the physical effort or energy involved in emitting the behavior (e.g., Mary has a strong grip when shaking hands). Strategies for measuring dimensions of behavior are discussed in Chapter 21.

## Questions for Learning

(Note to reader: You will encounter sets of questions in each chapter. Because these questions are designed to enhance your learning, we encourage you to: [a] pause in your reading; [b] prepare answers to those questions; and [c] learn those answers. Doing so will help you to master the content of this book.)

1. What is behavior, generally and technically? Give three synonyms for behavior.
2. Distinguish between behavior and products of behavior. Give an example of a behavior and a product of that behavior that are not in this chapter.
3. Distinguish between overt and covert behaviors. Give two examples of each that are not in this chapter.
4. What are cognitive behaviors? Give two examples.
5. Describe two dimensions of behavior. Give an example of each.

## Summary Labels for Behavior

While we have all learned to talk about behavior in various ways, we often do so in general terms. Terms such as *honest*, *carefree*, *hardworking*, *unreliable*, *independent*, *selfish*, *incompetent*, *kind*, *graceful*, *unsociable*, and *nervous* are summary labels for human actions, but they do not refer to specific behaviors. If, for example, you were to describe a man as nervous, others might know generally what you mean. But they would not know if you were referring to that person’s tendency to chew his

fingernails frequently, his constant fidgeting when sitting in a chair, the tendency for his left eye to twitch when talking to someone of the opposite sex, or some other behavior. In later chapters we discuss ways to measure specific dimensions of behavior.

For behavior modification specialists, many terms that are commonly used by psychologists, such as *intelligence*, *attitudes*, and *creativity*, are also summary labels for behavior. What do we mean when we say that a person is *intelligent*? To many people, intelligence is something that you are born with, a sort of “inherited brain power” or innate capacity for learning. But we never observe or directly measure any such thing. On an intelligence test, for example, we simply measure people’s behavior—their answers to questions—as they take the test. The word *intelligent* is best used in its adjective form (e.g., “he is an *intelligent* speaker,” “his speech is *intelligent*”) or its adverb form (e.g., “she writes *intelligently*”) to describe how people behave under certain conditions, such as taking a test, not as a noun for some “thing.” Perhaps a person described as intelligent readily solves problems that others find difficult, performs well on most course examinations, reads many books, talks knowledgeably about many topics, or gets a high score on an intelligence test. Depending on who uses the word, *intelligence* can mean any or all of these—but whatever it means, it refers to ways of behaving. Therefore, in this book we avoid using the word *intelligence* as a noun. (For further discussion of a behavioral approach to intelligence, see Williams, Myerson, & Hale, 2008.)

What about an *attitude*? Suppose that Johnny’s teacher, Ms. Smith, reports that he has a bad attitude toward school. What does Ms. Smith mean by this? Perhaps she means that Johnny frequently skips school, refuses to do his classwork when he does attend, and swears at the teacher. Whatever she means when she talks about Johnny’s “bad attitude,” it is clearly his behavior with which she is really concerned.

*Creativity* also refers to the kinds of behavior that a person is likely to engage under certain circumstances. The creative individual frequently emits behaviors that are novel or unusual and that, at the same time, have desirable effects. (For a behavioral approach to creativity, see Marr, 2003.)

Summary labels commonly used to refer to psychological problems include *autism spectrum disorder*, *attention-deficit/hyperactive disorder*, *anxiety*, *depression*, *low self-esteem*, *road rage*, *interpersonal difficulties*, and *sexual dysfunction*. There are positive reasons that summary terms or labels for behavior patterns are so frequently used in psychology and in everyday life. First, they may be useful for quickly providing general information about how an individual might perform. We would expect that a 10-year-old child who has been labeled as having a severe developmental disability, for example, would not be able to read even at the first-grade level. Second, the labels may imply that a particular treatment program will be helpful. Someone with road rage might be encouraged to take an anger-management program. Someone who is unassertive might benefit from an assertiveness training course. However, the use of summary labels also has disadvantages. One is that they may lead to *pseudo-explanations* of behavior (*pseudo* means false). For example, a child who inverts words while reading, such as “saw” for “was,” might be labeled as *dyslexic*. If we ask why the child inverts words, and we are given the answer, “Because he is dyslexic,” then the summary label for the behavior has been used as a pseudo-explanation for the behavior. Another name for pseudo-explanation is *circular reasoning*.

A second disadvantage of labeling is that labels can negatively affect the way an individual might be treated, such as by focusing on an individual’s problem behaviors rather than strengths. Suppose, for example, that a teenager consistently fails to make his bed, but reliably mows the lawn and places the garbage cans on the street on pickup days. If the parents describe their son as “lazy,” that label may cause them to focus more on the problem behavior than to praise the positive behaviors. In some societies, racial minorities have been given the negative label “lazy” even when they were the ones doing most of the hard physical work in those societies.

In this book, we strongly stress the importance of defining all types of problems in terms of **behavioral deficits** (too little behavior of a particular type) or **behavioral excesses** (too much behavior of a particular type). We do so for several reasons. First, we want to help you to avoid the problems of using general summary labels discussed earlier. Second, regardless of the labels attached to an individual, it is *behavior* that causes concern—and behavior that must be treated to alleviate the problem. Certain behaviors that parents see and hear, or fail to see and hear, cause them to seek professional help for their children. Certain behaviors teachers see and hear prompt them to seek professional help for their students. Certain behaviors that can be seen or heard cause governments to set up institutions, clinics, community treatment centers, and special programs. And certain behaviors that you emit might cause you to embark on a self-improvement program. Third, specific procedures are now available that can be used to improve behavior in schools, in workplaces, and in home settings—in fact, just about anywhere that there is a need to establish more desirable behaviors. These techniques are referred to collectively as *behavior modification*.

## Questions for Learning

6. From a behavioral point of view, what do terms like *intelligence* or *creativity* refer to? Give an example of each.
7. What are two positive reasons that summary terms for behavior patterns are used frequently in psychology and in everyday life?
8. What are two disadvantages of using summary labels to refer to individuals or their actions? Give an example of each.
9. What is a behavioral deficit? Give two examples that are not in this chapter.
10. What is a behavioral excess? Give two examples that are not in this chapter.
11. What are three reasons why the authors describe behavior problems in terms of specific behavioral deficits or excesses?

## What Is Behavior Modification?

**Behavior modification** involves the systematic application of learning principles and techniques to assess and improve individuals' covert and overt behaviors in order to enhance their daily functioning. Behavior modification has seven main characteristics. First, the most important characteristic is *its strong emphasis on defining problems in terms of behavior that can be measured in some way, and using changes in the behavioral measure of the problem as the best indicator of the extent to which the problem is being helped.*

Second, *its treatment procedures and techniques are ways of altering an individual's current environment* to help that individual function more fully. The physical variables that make up a person's environment are called *stimuli* (plural of *stimulus*). More specifically, **stimuli** are the people, objects, and events currently present in one's immediate surroundings that impinge on one's sense receptors and that can affect behavior. For example, the teacher, other students, and the furniture in a classroom are all potential stimuli in a student's environment in a classroom setting. An individual's own behavior can also be a part of the environment influencing that individual's subsequent behavior. When hitting a forehand shot in tennis, for example, both the sight of the ball coming near and the behavior of completing your backswing provide stimuli for you to complete the forehand shot and hit the ball over the net. Things that a therapist might say to a client are also a part of that client's environment. But behavior modification is much more than *talk therapy* or *verbal psychotherapy* (such as psychoanalysis or client-centered therapy). Although both behavior modifiers and "talk" therapists talk to their clients, their approaches to therapy differ in several important ways. One difference is that a behavior modifier is frequently actively involved in restructuring a client's daily environment to strengthen appropriate behavior, rather than spending a great deal of time discussing the client's past experiences. While knowledge of a client's past experiences might provide some useful information for designing a treatment program, knowledge of the current environmental variables that control a client's behavior is necessary for designing an effective behavioral treatment. Another difference between behavior modifiers and "talk" therapists is that a behavior modifier frequently gives homework assignments to clients in which the clients change their own everyday environments for therapeutic purposes. Such homework assignments are discussed in Chapters 26, 27, and 28.

A third characteristic of behavior modification is that *its methods and rationales can be described precisely.* This makes it possible for behavior modifiers to read descriptions of procedures used by their colleagues, replicate them, and get essentially the same results. It also makes it easier to teach behavior modification procedures than has been the case with many other forms of psychological treatment.

As a consequence of the third characteristic, a fourth characteristic of behavior modification is that *the techniques of behavior modification are often applied by individuals in everyday life.* Although, as you will read in this book, appropriately trained professionals and paraprofessionals use behavior modification in helping others, the precise description of behavior modification techniques makes it possible for individuals such as parents, teachers, coaches, and others to apply behavior modification to help individuals in everyday situations.

A fifth characteristic of behavior modification is that, to a large extent, *the techniques stem from basic and applied research in the science of learning in general, and the principles of operant and Pavlovian conditioning in particular* (e.g., see Pear, 2001). Therefore, in Part II we cover these principles in considerable detail and show how they are applicable to various types of behavior problems.

Two final characteristics are that *behavior modification emphasizes scientific demonstration that a particular intervention or treatment was responsible for a particular behavior change, and it places high value on accountability for everyone involved in behavior modification programs:* client, staff,

administrators, consultants, and so on.\* Thus far we have discussed behavior modification in an abstract way. That is, we have talked about the general approach that behavior modifiers take toward behavior. But how do behavior modifiers determine which behaviors to modify? The answer to this question is that they make use of procedures collectively called “behavioral assessment.”

## What Is Behavioral Assessment?

In the preceding section, we said that the most important characteristic of behavior modification is its use of measures of behavior to judge whether or not an individual’s behavior had been improved by a behavior modification program. Behaviors to be improved in a behavior modification program are frequently called **target behaviors**. For example, if a university student sets a goal of studying 2 hours out of class for each hour spent in class, studying is the target behavior.

**Behavioral assessment** involves the collection and analysis of information and data in order to (a) identify and describe target behaviors; (b) identify possible causes of the behavior; (c) guide the selection of an appropriate behavioral treatment; and (d) evaluate treatment outcome. One type of behavioral assessment that has become especially important is termed *functional analysis*. Essentially, this approach (discussed in Chapter 23) involves isolating through experimentation the causes of problem behavior and removing or reversing them. As the interest in behavior modification has expanded during the past five decades, so has the demand for guidelines for conducting behavioral assessments. For more information on behavioral assessment, refer to Chapters 20, 21, and 23, or the books by Cipani and Schock (2011), Fisher, Piazza, and Roane (2011), and Ramsay, Reynolds, and Kamphaus (2002).

**NOTE 1**  
[Margin notes refer to “Notes for Further Learning” at the end of the chapters.]

## Questions for Learning

12. Define behavior modification.
13. What are stimuli? Describe two examples that are not in this chapter.
14. State seven defining characteristics of behavior modification.
15. What is meant by the term *target behavior*? Give an example of a target behavior of yours that you would like to improve. Is your target behavior a behavioral deficit to increase or a behavioral excess to decrease?
16. Define behavioral assessment.

## Some Historical Highlights of Behavior Modification

In addition to the term *behavior modification*, other terms that have been used to describe the application of learning principles to help individuals improve their behavior include *behavior therapy*, *applied behavior analysis*, and *cognitive behavior therapy*. Although these terms overlap in many ways, there are also some rather subtle distinctions between them. In this section, we will briefly describe some of the early history of these terms and the distinctions that have come to characterize them. (A more detailed history is presented in Chapter 29.)

### Pavlovian Conditioning and Early “Behavior Therapy”

If you have taken an introductory psychology course, you may recall that in the early 1900s a Russian physiologist, Ivan P. Pavlov, demonstrated with a dog that pairing a stimulus such as a bell with food (which caused salivation) taught the dog to salivate to the bell alone. Pavlov’s research initiated the study of a type of learning now known as classical, Pavlovian, or respondent conditioning (described in Chapter 3). In a landmark experiment in 1920, Watson and Rayner demonstrated Pavlovian conditioning of a fear response in an 11-month-old infant. Although attempts to replicate the Watson and Rayner experiment were unsuccessful, a subsequent landmark experiment by Mary Cover Jones (1924) clearly demonstrated the “de-conditioning” of a fear in an infant. Over the next 30 years, a number of experiments demonstrated that our fears and other emotions can be influenced by Pavlovian conditioning. Then, in the 1950s in South Africa, a psychiatrist named Joseph Wolpe, drawing heavily on Pavlovian conditioning and the work of Mary Cover Jones, developed a behavioral treatment for specific phobias, which are intense irrational fears such as a fear of heights or closed spaces. In 1960, Wolpe’s approach was first referred to as *behavior therapy* by the British psychologist Hans

\*We thank Rob Hawkins for these last two points.



Eysenck. In the early 1960s, Wolpe moved to the United States and his behavior therapy approach for treating anxiety disorders gained in popularity. Applications of behavior therapy to treat a variety of psychological disorders are described in Chapter 28.

## Operant Conditioning and Early “Behavior Modification”

Pavlovian conditioning involves reflexes—automatic responses to prior stimuli. In 1938, B. F. Skinner distinguished between Pavlovian conditioning and operant conditioning—a type of learning in which behavior is modified by its consequences (rewards and punishers). In 1953, in his book *Science and Human Behavior*, Skinner offered his interpretation of how basic learning principles could influence the behavior of people in all kinds of situations. In the 1950s and 1960s, practitioners, influenced by Skinner, published a number of papers that demonstrated applications of operant conditioning principles to help people in a variety of ways. These applications were given the name *behavior modification*. Examples of these applications include helping an individual to overcome stuttering, eliminating excessive vomiting of a child with intellectual disabilities, and teaching a child with autism to wear his prescription glasses. In 1965, Ullmann and Krasner published an influential collection of such readings in a book titled *Case Studies in Behavior Modification*, the first book with “behavior modification” in its title.

## Applied Behavior Analysis

**NOTE 2** The year 1968 saw the publication of the first issue of the *Journal of Applied Behavior Analysis (JABA)*. JABA is the sister publication of the *Journal of the Experimental Analysis of Behavior (JEAB)*, which deals with basic behavior analysis. In an important editorial article in the first issue of JABA, Baer, Wolf, and Risley identified the *dimensions of applied behavior analysis* as including: (a) a focus on measurable behavior that is socially significant (e.g., littering, parenting skills); (b) a strong emphasis on operant conditioning to develop treatment strategies; (c) an attempt to clearly demonstrate that the applied treatment was responsible for the improvement in the behavior that was measured; and (d) a demonstration of generalizable and long-lasting improvements in behavior. Over the years, the term *applied behavior analysis* has become increasingly popular (Bailey & Burch, 2006). In fact, some authors maintain that *behavior modification* and *applied behavior analysis* are now “two terms used to identify virtually identical fields” (e.g., Miltenberger, 2012). We, however, present a different point of view in this book.

## Cognitive Behavior Therapy

Do you ever find yourself thinking, “Why do I always screw things up,” or “Why does the worst always happen to me?” The well-known cognitive therapist Albert Ellis considered such statements to be irrational—after all, you don’t always screw things up and you do some things well. Ellis believed that such irrational thoughts could cause a variety of troublesome emotions. His approach to therapy was to help people identify such irrational beliefs and to replace them with more rational self-statements (Ellis, 1962). Independently of Ellis, Aaron Beck assumed that dysfunctional thinking could cause depression and other problems, and he developed a therapeutic procedure that was similar to that of Ellis. Beck (1970) referred to strategies for recognizing maladaptive thinking and replacing it with adaptive thinking as *cognitive therapy*, and he contrasted cognitive therapy with behavior therapy (Beck, 1970). In the 1970s and 1980s, the term *cognitive behavior modification* was commonly used to refer to this approach (e.g., Meichenbaum, 1977, 1986). However, during the last two decades, the term *cognitive behavior therapy* has become the more common term for this approach. Cognitive behavior therapy is discussed in more detail in Chapters 27 and 28.

## Current Use of “Behavior Modification” and Related Terms

The term **behavior analysis** refers to the scientific study of the laws that govern the behavior of human beings and other animals. Behavior analysis is the science on which behavior modification is based. As mentioned above, the terms *applied behavior analysis* and *behavior modification* are often used interchangeably, and many individuals who specialize in these areas call themselves *applied behavior analysts*. The terms *behavior therapy* and *cognitive behavior therapy* also are often used interchangeably. However, many individuals who practice behavior therapy or cognitive behavior therapy would not consider themselves to be applied behavior analysts, nor would they likely be considered as such by many certified behavior analysts. An

additional consideration is that *behavior modifier*, *behavior manager*, and *performance manager* are terms often used to refer to an individual who, without formal training in behavior modification, deliberately tries to improve someone's behavior. The "behavior modifier" in such instances might be a teacher, parent, spouse, peer, roommate, supervisor, colleague, or a person modifying his/her own behavior. With this brief review of terms in mind, in this book we use the term *applied behavior analyst* when referring to someone who has had considerable formal training in applied behavior analysis, the term *behavior therapist* when referring to someone who has had considerable formal training in the application of behavior therapy or cognitive behavior therapy for treating psychological disorders, and the term *behavior modification* as the systematic application of learning principles and techniques to assess and improve individuals' covert and overt behaviors in order to enhance their daily functioning. Thus, in our view, the term *behavior modification* is broader than and encompasses the other terms referred to above (for further discussion along these lines, see Pear & Martin, 2012, and Pear & Simister, in press).

## Questions for Learning

17. Briefly describe Joseph Wolpe's contribution to the early history of behavior therapy.
18. Briefly describe B. F. Skinner's early influence on behavior modification?
19. State the four dimensions of applied behavior analysis.
20. What was Aaron Beck referring to with respect to the term *cognitive therapy*?
21. How is the term *applied behavior analyst* used in this book?
22. How is the term *behavior therapist* used in this book?

## Some Misconceptions about Behavior Modification

You probably encountered the term *behavior modification* before reading this book. Unfortunately, because numerous myths or misconceptions exist pertaining to this term, some of what you might have heard is likely false. Consider the following statements.

*Myth 1:* Use of rewards by behavior modifiers to change behavior is bribery.

*Myth 2:* Behavior modification involves the use of drugs and electroconvulsive therapy.

*Myth 3:* Behavior modification only changes symptoms; it doesn't get at the underlying problems.

*Myth 4:* Behavior modification can be applied to deal with simple problems, such as toilet-training children or overcoming fear of heights, but it is not applicable for dealing with complex problems such as low self-esteem or depression.

*Myth 5:* Behavior modifiers are cold and unfeeling and don't develop empathy with their clients.

*Myth 6:* Behavior modifiers deal only with observable behavior; they don't deal with thoughts and feelings of clients.

*Myth 7:* Behavior modifiers deny the importance of genetics or heredity in determining behavior.

*Myth 8:* Behavior modification is outdated.

In various sections throughout this book you will encounter evidences that help to dispel these myths or misconceptions.

## The Approach of This Book

The main purpose of this book is to describe behavior modification techniques in an enjoyable, readable, and practical manner. Because it has been written for people in helping professions as well as for students, we intend to help readers learn not merely about behavior modification but also how to use it to change behavior. As stated previously, behavior that someone would like to improve can be classified as either behavioral deficits or behavioral excesses, and can be overt or covert. Below are examples of each type.

### *Examples of behavioral deficits*

1. A child does not pronounce words clearly and does not interact with other children.
2. A teenager does not complete homework assignments, help around the house, work in the yard, or discuss problems and difficulties with her parents.
3. An adult does not pay attention to traffic regulations while driving, thank others for courtesies and favors, or meet his/her partner at agreed-upon times.
4. A basketball player, encouraged by the coach to visualize the ball going into the net just before a foul shot, is unable to do so.

*Examples of behavioral excesses*

1. A child frequently gets out of bed and throws tantrums at bedtime, throws food on the floor at mealtime, and plays with the TV remote.
2. A teenager frequently interrupts conversations between his parents and other adults, spends hours on Facebook, text messaging and talking on his/her cellphone, and uses abusive language.
3. An adult watches TV continuously, frequently eats candy or other junk food between meals, smokes one cigarette after another, and bites his/her fingernails.
4. A golfer often thinks negatively (e.g., “If I miss this one, I’ll lose!”) and experiences considerable anxiety (i.e., heart pounding, palms sweating) just before important shots.

To identify a behavior as excessive or deficient, we must consider the context in which it occurs. For example, a child drawing on paper is showing appropriate behavior, but most parents would consider it a behavioral excess if the child repeatedly draws on the living room wall. A normal teenager might interact appropriately with members of the same sex, but be extremely embarrassed and have difficulty talking to members of the opposite sex—a behavioral deficit. Some behavioral excesses—for example, self-injurious behavior—are inappropriate no matter what the context (although with some imagination, one could think of extreme situations in which even self-injurious behavior would be appropriate). In most cases, however, the point at which a particular behavior is considered deficient or excessive is determined primarily by the practices of one’s culture and the ethical views of concerned individuals.

To summarize, the behavior modification approach focuses primarily on behavior and involves current environmental (as opposed to medical, pharmacological, or surgical) manipulations to change behavior. Individuals who are labeled as having a developmental disability, autism, schizophrenia, depression, or an anxiety disorder, for example, show behavioral deficits or excesses. Similarly, individuals who are labeled lazy, unmotivated, selfish, incompetent, or uncoordinated also show behavioral deficits or excesses. Behavior modification consists of a set of procedures that can be used to change behavior so that these individuals will be considered less of whatever label has been given them. Some traditional psychologists who are not trained in behavior modification have shown an excessive interest in labeling and classifying individuals. Regardless of the label given, however, the behavior of the individuals who are labeled is still there and is still being influenced by their environments. The mother in Figure 1.1, for example, is still concerned about what to do with her child and how to handle the problem. That is where behavior modification comes in.

## Some Ethical Issues

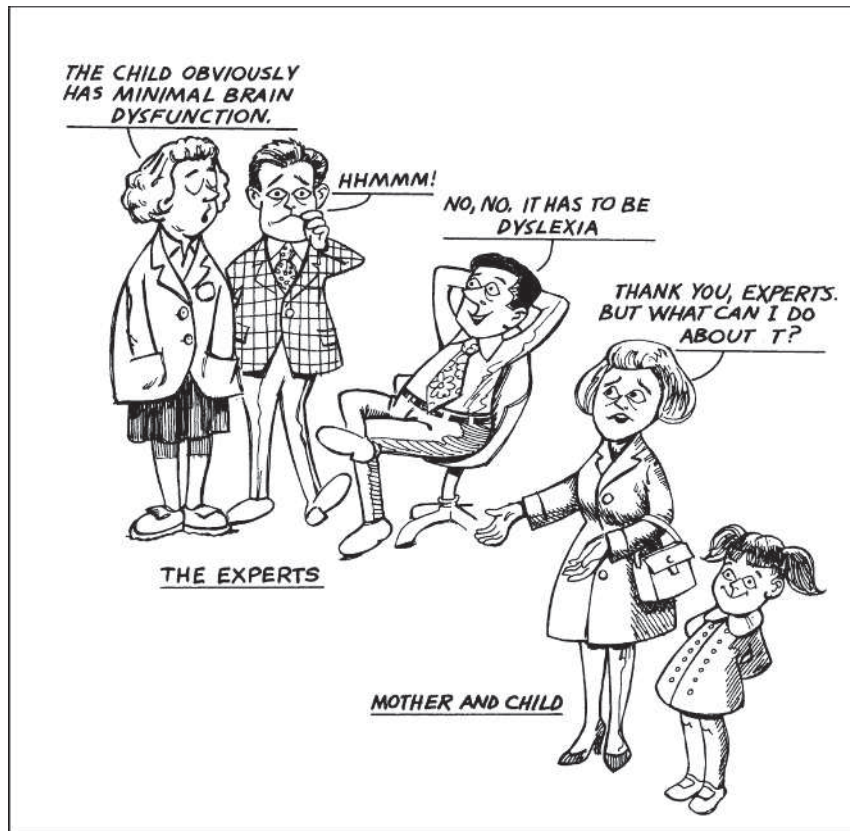
As behavior modification has evolved, a number of ethical or moral concerns have become increasingly prominent. These are concerns that one should always bear in mind when applying behavior modification. Various groups and/or organizations, such as the Association for Behavioral and Cognitive Therapies, the American Psychological Association, and the Association for Behavior Analysis International, have addressed the ethical issues involved in the application of behavior modification (see also Bailey & Burch, 2011). In this section, we highlight ethical guidelines that you should keep in mind when reading subsequent chapters. In the final chapter of this book we present a more detailed discussion of the relationship between cultural practices, ethics, and behavior modification.

## Qualifications of the Applied Behavior Analyst/Behavior Therapist

Applied behavior analysts/behavior therapists should receive appropriate academic training, including supervised practical training, to ensure competence in behavioral assessment, designing and implementing treatment programs, and evaluating their results.

## Definition of the Problem and Selection of Goals

Target behaviors selected for modification must be those that are the most important for the individual and society. Ideally the client will be an active participant in the identification of target behaviors. Where this is not possible, competent impartial third parties should be identified to act on behalf of the client.



**FIGURE 1.1**

The experts “helping” mother with her child?

## Selection of Treatment

Applied behavior analysts/behavior therapists should use the most effective, empirically validated intervention methods with the least discomfort and fewest negative side effects.

## Record Keeping and Ongoing Evaluation

Applied behavior analysts/behavior therapists should perform a thorough behavioral assessment before applying the intervention. The intervention should include ongoing monitoring of target behaviors as well as possible side effects, and an appropriate follow-up evaluation after the treatment is concluded. It is the monitoring of data by concerned parties and clients that is the cornerstone for ensuring ethical and effective treatment programs by applied behavior analysts/behavior therapists.

## Questions for Learning

23. List four myths or misconceptions about behavior modification.
24. List four subtopics that address ethical issues in behavior modification programs.
25. State two guidelines to ensure that target behaviors for behavior modification are the most important for the client and society.
26. What is key to ensuring ethical and effective treatment programs by applied behavior analysts/behavior therapists?

## The Structure of This Book

This chapter has introduced the behavioral orientation of this book. Chapter 2 describes major areas of application of behavior modification techniques for improving a wide variety of behaviors of individuals in diverse settings. Chapters 3–30 are presented in six major sections.