

## CHAPTER FOURTEEN

# PSYCHOTHERAPY: BEHAVIORAL AND COGNITIVE APPROACHES

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## INTRODUCTION

It was much harder to fall asleep now. When he was very young, Brian would gaze at the stars that his mother had painted on the ceiling of his room, painted so that they would glow in the dark after the lights were off. As he grew older he would lie in bed and think comfortably about the things that mattered to him most. Would this be the year that

the Red Sox finally won the World Series? What would he and his friends do together this weekend? What would it be like to go out with the beautiful girl in his algebra class? Now it could take hours of anguish before he finally fell asleep. And the biggest source of his suffering came from this burning question about his parents' divorce: "What did I do to cause it?"

When his parents first began fighting Brian just felt anger and frustration. When they yelled at one another, he would yell too. But as he grew older and things began to worsen at home, he started to question why it was happening. As the hostility in the house increased, Brian's grades suffered and his performance in sports, which had long been a source of great pride to him and his father, also declined. The worse he did, the more his parents fought, and the more they fought, the worse he did. He can't remember when he first began to blame himself for his parents' fighting, but soon he was overcome with guilt over his role in breaking the family apart. The thought that he caused their divorce ate away at him, and it was most painful when the lights went out and he had nothing to distract himself from his blame.

As his parents' relationship worsened, other things changed profoundly in Brian's life. His father spent more time at work and less time with Brian and his sister. When he was young, Brian's father coached his Little League teams in the summer and his youth basketball teams in the winter. Now his dad didn't even attend Brian's games, much less serve as his coach. Brian felt this was just as well—he was playing horribly in all sports anyway. The things that used to bring Brian so many rewards and such a sense of accomplishment—school and sports—were now sources of failure and frustration. And he didn't see how things could ever get better.

These passages highlight an important aspect of people who are struggling with depression—the way that they think about themselves, their world, and their future. As we will learn in this chapter, changing these negative ways of thinking lies at the core of one of the most effective means of treating depression: cognitive therapy. The methods of cognitive therapy have grown out of, and are used in conjunction with, another major form of psychological therapy—**behavior therapy**.

In chapters 12 and 13 we have described orthodox and contemporary approaches to psychoanalysis and psychoanalytic psychotherapy and therapies conducted from the perspective of humanistic and phenomenological frameworks. In

this chapter we present a set of therapies developed from a different perspective. In fact, behavior therapy was developed originally in large part as a reaction against the practice of psychoanalysis. Psychologists felt both that the empirical foundation of psychoanalysis was nonexistent, and that claims for its efficacy were unwarranted. In those early years, there was no love lost between psychoanalysts and behavior therapists. Here, for example, is Andrew Salter's introduction to his 1949 book on behavior therapy, entitled *Conditioned Reflex Therapy*:

It is high time that psychoanalysis, like the elephant of fable, dragged itself off to some distant jungle graveyard and died. Psychoanalysis has outlived its usefulness. Its methods are vague, its treatment is long and drawn out, and more often than not, its results are insipid and unimpressive. Every literate non-Freudian in our day knows these accusations to be true. But we may ask ourselves, might it not be that psychotherapy, by its very nature, must always be difficult, time-consuming, and inefficient? I do not think so. I say flatly that psychotherapy can be quite rapid and extremely efficacious. I know so because I have done so. And if the reader will bear with me, I will show him how by building our therapeutic methods on the firm scientific bed rock of Pavlov, we can keep out of the Freudian metaphysical quicksands and help ten persons in the time that the Freudians are getting ready to "help" one. (p. 1)

There are two aspects about this statement by Salter that are particularly noteworthy. First, it is clear that Salter's opposition to and dissatisfaction with Freudian psychoanalysis is quite strong. He has criticized psychoanalysis in terms of its conceptualization, its practicality, and its effectiveness. Second, Salter formulated this critique over 50 years ago, underscoring the fact that efforts to generate an alternative to psychoanalysis that is based in the scientific study of behavior have been long-standing.

Since the 1920s, when Pavlov and Watson demonstrated the power of conditioning to affect behavior, there has been a steady increase in the use of learning-based procedures developed to

reduce patients' levels of emotional distress and eliminate their maladaptive behaviors. As we will see in this chapter, early approaches to behavior therapy, or behavior modification as it was referred to then, completely denied the importance of cognitions in the process of clinical improvement. Cognitions were not directly observable and could not be measured reliably; consequently, advocates of behavior therapy felt that a focus on cognitions was irrelevant to a science of behavior change. The 1970s however, brought the beginnings of a dramatic reversal of this position. Psychologists began to integrate cognitive procedures with behavioral techniques in the practice of what came to be known as cognitive-behavior therapy. And more recently, theorists and therapists have made notable developments in a form of psychotherapy referred to as cognitive therapy.

In this chapter we will describe the development and effectiveness of behavioral and cognitive approaches to the practice of psychotherapy. We begin by briefly presenting the historical foundations of behavior therapy. We then describe a variety of behavioral procedures and techniques that have been developed to reduce anxiety and improve functioning. Following this presentation we discuss the integration of behavioral and cognitive perspectives in the treatment of emotional distress, and then turn our attention to the more recent practice of cognitive approaches to psychotherapy. Finally, we describe the literature examining the efficacy of behavioral, cognitive-behavioral, and cognitive treatment of psychopathology.

## HISTORICAL FOUNDATIONS OF BEHAVIOR THERAPY

### **Pavlov, Watson, and Classical Conditioning**

As we will see throughout this chapter, the practice of behavior therapy is closely tied to principles of learning theory. In chapter 4 we described the development of learning theory, beginning

with the Russian physiologist **Ivan Pavlov's** observation that dogs learned to salivate in anticipation of food, a response he referred to as a conditioned reflex. Pavlov's work was refined and expanded in the United States by psychologist John Watson. While other American psychologists at the time were studying internal processes like thoughts, introspection, and emotional states, Watson worked to develop principles of learning, focusing instead on overt, observable behavior.

Watson believed that we are born with three basic emotions: fear, rage, and love. He also recognized, however, that there are wide differences among people in the stimuli that elicit these emotions. To explain this variability in emotional responsiveness, Watson posited that we all learn different stimulus-response associations through conditioning. In chapter 4 we described Watson's famous experiment conducted with his graduate student, Rosalie Rayner. Briefly, Watson and Rayner (1920) used principles of classical conditioning to condition fear in an 11-month-old infant, now known as "Little Albert." Watson and Rayner presented a slightly positive stimulus (a white rat) to Albert and then startled the infant by clanging heavy steel bars above his head. After only five pairings of the white rat with the aversive noise, Albert began to exhibit signs of distress and soon showed fear to the rat.

Watson and Rayner's experiment was the first empirical demonstration that emotions can be learned. Furthermore, as we pointed out in chapter 4, this experiment was also the first laboratory demonstration of an "experimental neurosis" in a human—the acquisition of anxiety in response to a stimulus that does not represent a realistic threat to the individual. But this was just the first step. As Watson (1924) wrote, "Finding that emotional responses could be built in with great readiness, we were all the more eager to see whether they could be broken down, and if so by what methods" (p. 132). Watson wanted to be able to apply learning and conditioning principles to changing problematic or

maladaptive behaviors. However, because he was forced to leave Johns Hopkins University following a sensationally publicized divorce suit involving Rayner (whom he later married) and join the J. Walter Thompson advertising company in New York, it did not seem likely that Watson would have the opportunity to continue his research. But four years after his Little Albert experiment, Watson was asked by a former student, Mary Cover Jones, to supervise her in the use of conditioning procedures to treat a fear of rats, rabbits, and other furry objects in a 3-year-old boy, "Peter."

Jones (1924) treated Peter slowly, gradually bringing a caged rabbit near Peter while he was eating a favorite food, a little closer with each presentation. After two months of this reconditioning procedure, Peter no longer exhibited fear of the rabbit. Conducting the first study demonstrating that a child's fear could be reduced significantly through conditioning procedures was clearly important to Jones. As she wrote in 1974,

It has always been of the greatest satisfaction to me that I could be associated with the removal of a fear when I came in contact with this three-year-old in whom a fear of animals was already well established . . . I could not have played the role of creating a fear in a child, no matter how important the theoretical implications. When my own children came across the case of Peter in their college textbooks, they too were relieved to find that I had functioned in this benign capacity in the psychological experiments with children and children's fears. (p. 581)

Despite the significance of this research, it is important to acknowledge that Watson's work with both Little Albert and Peter were case studies—provocative examples that emotions could be learned and changed through associative conditioning. It was several years before investigators obtained more carefully controlled evidence based on a large number of subjects. Nevertheless, Watson's studies planted the seeds for the development of subsequent interventions based

on principles of conditioning. It would be 14 more years, however, before another scientific report of the use of conditioning procedures in the treatment of problematic behaviors appeared in the literature. In 1938, O. H. Mowrer, a learning psychologist at Yale, and his wife, W. M. Mowrer, a human development specialist, described a conceptualization of nocturnal enuresis (nighttime bed wetting) as a child's failure to respond to bladder distension (onset of urination) by waking up and contracting the sphincter. They reported the use of an electrical bell-and-pad procedure to treat enuresis in children. A pad connected to a bell was placed on the child's bed, and the bell was set off whenever the pad became wet. After several trials of this procedure, the child associated bladder distension with sphincter contraction, and enuresis was prevented. This procedure, based on principles of classical conditioning, was important in providing an early clinical demonstration of the utility of behavioral approaches to treatment. Interestingly, extensive research has been conducted on the bell-and-pad procedure since its development, and the results of recent reviews indicate that this procedure is still the most effective method of treatment for enuresis (e.g., Murphy & Carr, 2000; Rajjigah, 1996).

It would be another 15 years before the next step in the evolution of behavior therapy was taken. With World War II came an increased need for psychologists, functioning in their roles both as developers of psychological tests and procedures to aid in personnel selection and as therapists to treat the thousands of veterans returning from the war with significant symptoms of trauma and distress. Recall from chapter 2 that the vast majority of these psychologists had been trained in experimental psychology (which, at the time, was largely behavioral). This surge of behaviorally trained psychologists entering the workforce set the stage for a wider emergence of interventions based on behavioral principles.

After the war, three groups of investigators and therapists made major contributions to the

development of behavior therapy: B. F. Skinner in the United States, Joseph Wolpe in South Africa, and Hans Eysenck in England.

### Skinner and Operant Conditioning

With the publication of *Science and Human Behavior* in 1953, Skinner changed the focus of learning studies from classical conditioning to operant conditioning and opened the door to a different way of conceptualizing psychopathology. As we saw in chapter 4, operant conditioning involves administering a consequence to a behavior that alters the frequency of the recurrence of the behavior. Either administering positive consequences or removing negative stimuli following the occurrence of a behavior will increase the likelihood of the behavior being exhibited again (positive reinforcement). Similarly, administering negative consequences following a behavior will reduce the probability that the behavior will be emitted in the future (punishment).

In *Science and Human Behavior*, Skinner proposed that much of human behavior could be explained by principles of operant conditioning. More important in the context of clinical psychology, Skinner strongly criticized the predominant psychoanalytic approach to psychotherapy and, in its place, offered a behavioral conceptualization of therapy, behavior modification. He argued that the focus of psychoanalysis on internal mechanisms, defenses, and motivations was not defensible scientifically. As Watson had contended 30 years earlier, Skinner argued that psychologists should limit their focus and practice to the association of objectively measured behaviors and the environmental factors that control those behaviors. In 1968, a specialized journal, *The Journal of Applied Behavior Analysis*, which was based strongly on Skinner's operant conditioning perspective, began to publish scientific articles reporting successful applications of this "radical behaviorism" approach to the treatment of mentally retarded individuals, to the manage-

ment of persons with chronic mental illnesses like schizophrenia, and to the treatment of addictive behavior like smoking and overeating.

### Wolpe and Reciprocal Inhibition

**Joseph Wolpe** was a psychiatrist in South Africa who was trained originally in classical Freudian psychoanalysis. He became disenchanted with Freud's view of the development of neuroses and began to conduct his own experiments by first inducing, and then treating, experimental neuroses in cats. Wolpe induced fear in cats by administering shocks to them in a specific cage. He observed that the cats refused to eat in the cage in which they had been shocked; instead, they exhibited marked behaviors of distress and anxiety. Wolpe believed that the cats' anxiety was preventing them from eating. If conditioned anxiety could inhibit eating, he reasoned, then under the right conditions, the opposite could also happen: the cats' eating response could be used to inhibit the anxiety. Wolpe tested this hypothesis by having the cats begin to eat at a considerable distance from the cages in which they had been shocked and gradually bringing their food bowls closer and closer to the cages (recall the similar procedure used by Mary Cover Jones to treat Peter's fear of rabbits). Wolpe succeeded in using the cats' eating responses to inhibit their anxiety through the use of this procedure, called *counterconditioning*, which was based on a principle that Wolpe referred to as **reciprocal inhibition**: "If a response antagonistic to anxiety can be made to occur in the presence of anxiety-evoking stimuli so that it is accompanied by a complete or partial suppression of the anxiety response, the bond between these stimuli and the anxiety responses will be weakened" (Wolpe, 1958, p. 71).

Wolpe suggested that there is a wide variety of antagonistic responses, including muscle relaxation, assertive behaviors, and sexual behaviors; in fact, any response or behavior that is

incompatible with anxiety is a possible candidate for this category of response. Wolpe developed a behavioral procedure for the treatment of anxiety and phobias that was based on the principle of reciprocal inhibition and that was called systematic desensitization. As you might expect, in this procedure responses that are incompatible with anxiety, such as relaxation, are “brought” in some way closer and closer to the anxious stimuli in order to reduce the patient’s experience of anxiety and distress.

In 1966 Wolpe joined Cyril Franks, Andrew Salter, and Dorothy Susskind in forming the Association for the Advancement of Behavior Therapy (AABT). What began as a small group of behavior therapists and behavioral psychologists has grown now into an organization with an international membership of over 4,500. AABT holds an annual convention, supports a newsletter (*The Behavior Therapist*), and since 1970, has published a scientific journal focusing on behavioral approaches to the assessment and treatment of psychopathology (*Behavior Therapy*).

### Eysenck and Behavior Therapy

Hans Eysenck was a clinical psychologist who worked at the Maudsley Hospital in London, England. As we discussed in chapter 2, Eysenck wrote in 1952 what is undoubtedly one of the most controversial scientific articles in the history of clinical psychology, in which he challenged the effectiveness of traditional (that is, psychodynamic) psychotherapy. This article spurred clinical psychologists to develop new forms of treatment. Given the emerging focus on behaviorism in America, these new treatments were based soundly on behavioral principles. In 1959 Eysenck coined the term *behavior therapy*, and a year later he edited an influential book titled *Behaviour Therapy and the Neuroses*. In 1963, with his student S. J. Rachman (now at the University of British Columbia in Canada), Eysenck founded the first exclusively behavioral

scientific journal, *Behavior Research and Therapy*, a journal in which behavior therapists continue to publish today.

Throughout this history of behavior therapy, from Watson to Skinner and Wolpe, it is clear that although there are significant differences in approach (e.g., classical conditioning, operant conditioning, counterconditioning), all the early behavioral approaches were united in two convictions: first, that it is unnecessary to posit the existence of unconscious drives and processes and, second, that therapy is more likely to be effective if it focuses on discrete maladaptive behaviors rather than on more diffuse psychiatric diagnostic categories. Even though theorists like Julian Rotter and Albert Bandura subsequently integrated cognitive processes and constructs with these behavioral approaches, the nature of this focus on cognitions was very different from the emphasis on mental processes postulated by Freud. Whereas Freud’s views of mental processes and constructs were not easily operationalized, contemporary integrations of cognitive methods with behavior therapy emphasize the importance of clear definitions of cognitions and of antecedents and consequences of problematic cognitions and behaviors, which lead to reliable and readily quantifiable assessment and treatment procedures. Finally, all these behavioral approaches were based on principles that had been validated in the laboratory and extended in an effort to change maladaptive human behavior. This strategy had already been proven to be effective in other sciences, such as medicine and engineering; it was also being demonstrated to be a powerful tool for change in psychology.

### BEHAVIOR THERAPY

There are many different procedures and approaches to psychotherapy that can be (and often are) included under the heading of behavior therapy. Despite differences in the techniques associated with various forms of behavior ther-

apy, they are virtually all characterized by a common philosophy and set of underlying principles. All forms of behavior therapy focus to a large extent on providing learning experiences designed to change the patient's maladaptive behaviors. O'Leary and Wilson (1987) list a number of principles that apply to most forms of behavior therapy. The following five principles are those that we believe represent the strongest foundation on which behavior therapies are built:

1. All behavior, normal and abnormal, is acquired and maintained according to the same basic principles of learning.
2. It is not necessary to infer an underlying cause or motive for maladaptive behaviors; the behaviors are the disorder; they are not a manifestation or *sign* of an underlying disorder or disease process.
3. It is usually not necessary to know how a specific problem behavior was learned; the focus of treatment should not be on historical issues but rather on those factors that are currently maintaining the behavior.
4. Most abnormal behavior can be modified through the application of learning principles, by which maladaptive behaviors can be unlearned and replaced by new, more adaptive, learned behaviors.
5. Treatment methods are precisely specified and replicable and are tailored to the needs and strengths and situation of each client; treatment progress is assessed continually, and treatment outcome is evaluated objectively.

These principles highlight the importance of first, the focus of behavior therapy on overt behaviors rather than on underlying conflicts and motivations and, second, of the scientific evaluation of the effectiveness of each treatment program. It is not difficult to see that both these concepts represented a significant change from the psychoanalytic perspective that was prevalent at the time behavior therapy was being developed.

### Goals

Given the focus of behavior therapy on the patients' maladaptive behaviors, an important general goal of this form of psychotherapy is to reduce or eliminate the patient's problematic behaviors and to increase the frequency of more adaptive behaviors. The emphasis on overt behaviors, rather than on more vaguely defined intrapsychic conflicts, means that the goals of behavior therapy will generally be both clear and specific. Furthermore, in contrast to psychoanalytic and psychodynamic therapists, behavior therapists work actively and collaboratively with their patients in planning the goals of therapy and executing the procedures designed to attain these goals. Because behavior therapists assume that maladaptive behavior is a consequence of specific antecedents and consequences in the patient's natural environment, much of the important work in behavior therapy takes place outside the therapist's office, either through therapy conducted directly in the patient's environment (in vivo therapy) or through homework assignments carried out by the patient between sessions. The rationale underlying the selection of the specific objectives and techniques is generally made explicit to the patient, and the therapist and patient together carry out the therapy, evaluate the patient's progress, and if necessary, modify the treatment plan.

### Training and Supervision

Unlike psychoanalysts, behavior therapists are not required to undergo therapy themselves. Behavior therapy, as we have noted, is a strongly empirical approach to psychotherapy that is based solidly on principles of learning. Therefore, behavior therapists must have a thorough understanding of the major theories of learning, including classical and operant conditioning and social learning theory. Because of this requirement, it is generally (though not always) the case that behavior therapists are psychologists by

training. In fact, the high proportion of behavior therapists who are psychologists stands in contrast to orthodox psychoanalysis, which is composed primarily of individuals who are trained in psychiatry. Finally, the strong focus on overt behavior and the importance of behavior change also extends to supervision in behavior therapy. Not surprisingly, therefore, behavior therapists who are being supervised are frequently observed by their supervisors as they conduct therapy and are rated on scales that assess their skills and their progress as behavior therapists.

### **The Importance of Assessment in Behavior Therapy**

The link between assessment and therapy is stronger for behaviorally oriented therapies than is the case for virtually any other approach to psychotherapy, including psychoanalysis and phenomenological therapies. We described in chapter 10 the nature of behavioral assessment and the assessment procedures used most commonly by behavior therapists. We would like to underscore here that, from a behavioral perspective, assessment has profound implications for therapy. In fact, many behavior therapists would argue that one cannot begin behavior therapy without first conducting a comprehensive behavioral assessment, or functional analysis, of the patient's difficulties.

Mueser and Liberman (1995) outline a behavioral approach to assessment and therapy that describes the interdependence of these two endeavors. Mueser and Liberman note the importance of identifying the problem behavior or behaviors as objectively and precisely as possible by using a variety of assessment procedures that includes self-report questionnaires, structured interviews, self-monitoring, and behavioral observation. In chapter 10 we discussed the functional analysis of behavior, in which problematic behaviors of the patient are identified along with antecedents and consequences of the behaviors.

This operationalization of the patient's maladaptive behaviors permits the behavior therapist to develop and carry out a treatment program aimed specifically at changing the frequency or intensity of the problematic behaviors in as efficient a manner as possible.

### **Methods**

Behavior therapists have available to them a wide variety of techniques for teaching or increasing adaptive behaviors and eliminating maladaptive behaviors. Because of the large number of techniques available for changing behavior, it is tempting to view behavior therapy as simply an assortment or arsenal of procedures. As Kalish (1981) states, however, this view is not an accurate perception of this approach to psychotherapy:

The inclination to regard the methods of intervention in behavior modification as a collection of standardized techniques is especially misleading. It tends to obscure one of the most important contributions to the understanding of behavior change made by the advent of behavior modification procedures: namely, that for every so-called technique, there is a more fundamental and more general principle of behavior derived from research with animals and/or humans which can be applied to the solution of a problem in human functioning. This means, among other things, that those who intend to use behavior modification to help solve human problems should be aware of these principles and resourceful enough to propose treatment strategies which fit the case after a thorough analysis of the conditions which initiate and maintain the behavior. (p. 3)

In the following sections we will present and discuss the application of a number of behavioral methods and procedures used in the treatment of various forms of psychological distress. We will begin with behavioral procedures that are used to reduce high levels of fear (most commonly phobias) and will then discuss procedures used to teach and maintain new behaviors.



## APPLICATIONS OF BEHAVIOR THERAPY TO SPECIFIC PROBLEMS

### Fear Reduction Procedures

We know from recent epidemiological studies that fears and phobias are among the most common forms of psychological distress (Brunello et al., 2000; Curtis, Magee, Eaton, Wittchen, & Kessler, 1998; den Boer, 2000). Watson's experiments with Little Albert demonstrated that fears can be learned through experience, that is, through classical conditioning. Fears can also be learned indirectly, through observation. It should not be difficult to imagine, for example, that a child can learn to be afraid of snakes by watching a parent exhibit overt signs of pain (like screaming and writhing) after being bitten by a snake. Given that this fear is aversive, the individual understandably avoids coming into contact with the feared object or situation. From a behavioral perspective, however, this avoidance of the feared object means that the individual will never have an opportunity to extinguish the fear, that is, to approach a snake and find that nothing happens. In the absence of any new learning experience, the fear or phobia will persist indefinitely.

Most behavioral approaches to fear reduction involve some type of exposure of the feared stimulus to the patient. Sometimes this exposure is done using the patient's imagination; that is, the patient is instructed to imagine himself or herself in coming in contact with the feared object or situation. Other times the exposure is actual, or in vivo, in which the individual actually confronts the target of his or her fear. We will begin our discussion of these procedures with a description of systematic desensitization.

**Systematic Desensitization** **Systematic desensitization** is one of the most widely studied and commonly applied behavioral procedures for the reduction of fears and phobias. It is generally used when a patient has the skills or ability to engage in appropriate or adaptive behaviors but

instead avoids the feared stimulus or situation. Typically, this avoidance takes the form of a phobia, which is a fear of a particular object or situation that is out of proportion to any actual danger. In addition, however, the fear or phobia must present a serious problem in functioning or daily living for the individual. For example, a diabetic patient who is unable to inject herself with insulin because she is afraid of needles will be far more likely to seek treatment for her needle phobia than will an accountant living in Manhattan who has a phobia that keeps him from being able to approach and handle snakes.

Systematic desensitization was among the first clearly defined and tested behavioral techniques designed to reduce anxiety in humans. Systematic desensitization was developed and first described by Wolpe (1958) in his book *Psychotherapy by Reciprocal Inhibition*. The principle of reciprocal inhibition simply means that we cannot be both anxious and relaxed at the same time, that these two states mutually inhibit one another. Thus, we cannot experience both the physiologic components of anxiety (e.g., racing heart, increased respiration, high arousal) and the physiologic components of relaxation (e.g., decreased heart rate, slowed respiration, low arousal) at the same time—they are incompatible with each other. Wolpe reasoned that if he could teach anxious patients to remain relaxed in the presence of increasingly aversive or phobic stimuli, they could not at the same time feel anxious.

There are three distinct steps in systematic desensitization. First, because the patient cannot be anxious when she or he is relaxed, the patient is trained in one or more specific relaxation techniques. The relaxation procedure that is used most frequently in systematic desensitization is based on E. Jacobson's (1938) progressive muscle relaxation technique. This procedure involves alternately tensing and relaxing groups of muscles systematically throughout the body. The therapist will often give the patient an audiotape of the relaxation instructions so that the patient can practice at home. If the patient or the

therapist prefers, however, there are several other procedures available for teaching the patient how to relax. Many patients, for example, prefer to use a technique known as autogenic relaxation, in which they use imagery to relax. Thus, rather than alternately tensing and relaxing specific muscles, patients listen to the therapist (or to an audiotape) describe relaxing scenes (e.g., “imagine lying on a warm, sandy beach listening to the breeze pass through the palm trees and feeling the warmth of the sun on your skin”). Still other patients prefer to use hypnosis, biofeedback, or meditation to relax.

The second stage in systematic desensitization involves the construction of an anxiety hierarchy. An anxiety hierarchy is a list of related scenes or situations that vary in the amount of anxiety they elicit when the patient imagines or visualizes them. The patient works with the therapist to construct an initial large list of scenes related to the feared object or situation that cause the patient to feel anxious when imagining them. The patient then rates each scene to indicate how anxious he or she feels when imagining or visualizing the scene. Based on the patient’s ratings,

the patient and therapist select approximately 15 to 20 of the scenes that best span the range of ratings. Examples of anxiety hierarchies for two patients are presented in table 14.1.

The final step in systematic desensitization is really the heart of this procedure: the successive pairing of relaxation with each of the stimuli in the patient’s anxiety hierarchy. The patient begins the session by becoming relaxed, which, because the patient has already learned to completely relax relatively quickly, takes only 10 to 15 minutes. Then, beginning with the lowest ranked stimulus in the hierarchy, the patient is instructed to imagine or visualize the scene for about 10 seconds while remaining relaxed. If the patient begins to feel anxious while visualizing the scene, he or she signals this anxiety to the therapist, who then instructs the patient to stop imagining the scene and to regain a state of relaxation. When the patient has achieved this relaxed state, the therapist presents the same scene again. When the patient can visualize this scene while remaining relaxed, the therapist repeats this procedure for the next stimulus in the hierarchy. This procedure is repeated until the patient

**TABLE 14.1**  
**Sample Desensitization Hierarchies**

Systematic desensitization is used most frequently and successfully in the treatment of specific fears and phobias. A major component of this treatment is the development of one or more stimulus hierarchies that cover the range of anxiety experienced in the presence of the phobic object or situation. Here we present two such hierarchies, one constructed with a patient to treat a fear of flying and the other constructed to treat a patient’s fear of spiders.

#### **Fear of Flying**

Seeing an airplane flying overhead  
Hearing an airplane flying overhead  
Driving past an airport  
Driving to the airport  
Seeing an airplane on the ground  
Walking into an airline terminal  
Waiting to board a plane  
Entering an airplane  
Buckling the seatbelt in an airplane  
Feeling the airplane beginning to move  
Feeling the wheels leave the ground  
Feeling the airplane beginning to descend

#### **Fear of Spiders**

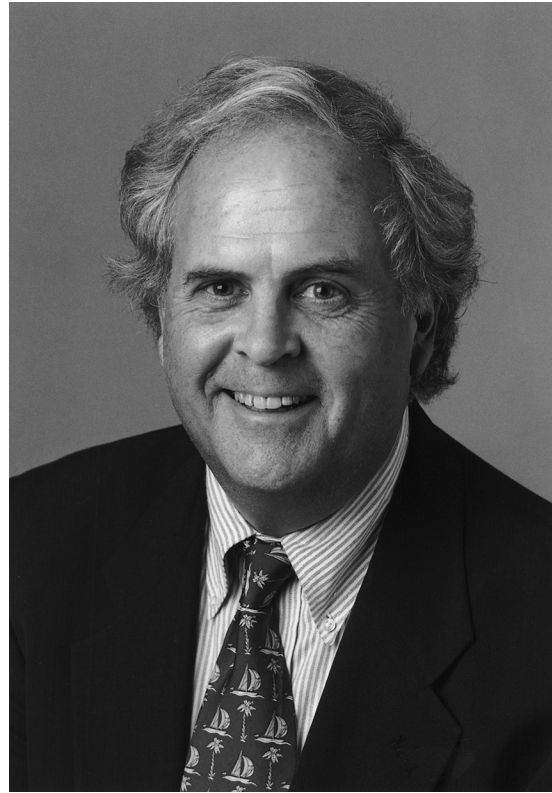
Walking outside with no spider in sight  
Seeing a spider on the sidewalk in front of you  
Seeing a spiderweb in the corner of a room  
Seeing a spider on the floor in front of you  
Seeing a spider on your shoe  
Seeing a spider on your shirt  
Seeing a spider crawling toward you  
Seeing a spider crawling on your hand  
Feeling a spider crawling on your leg  
Feeling a spider crawling on your face  
Walking into a spiderweb

can remain relaxed while visualizing the most anxiety-inducing scene in the hierarchy.

When the patient can visualize the most intense anxiety-inducing scene in the hierarchy without experiencing anxiety, systematic desensitization is complete. Most therapists who practice this procedure, however, also advise the patient to search for real-life equivalents of the imagined scenes in the hierarchy to ensure that the relaxation generalizes to the actual scenes. In fact, there is a variant of systematic desensitization, called *in vivo* desensitization, in which the patient is actually exposed to anxiety-inducing stimuli. For example, an individual with acrophobia (a fear of heights) may accompany the therapist to a second-floor balcony while attempting to remain relaxed. This procedure would be repeated until the patient could relax while standing on the balcony, at which point the patient and therapist might proceed to looking out a third-floor window.

Because any state that is incompatible with anxiety can be used in desensitization, the therapist is not limited to having the patient try to relax using muscle tensing or meditation. Bryntwick and Solyom (1973), for example, reported the successful treatment of a person with a fear of elevators by having him eat gourmet meals (which brought him great pleasure) while riding in an elevator. The positive affect experienced by the patient because of the quality of the food was incompatible with any feelings of anxiety. Of course, as in Jones's (1924) treatment of Peter, the order of presentation of the elevator and the food is critical. With the wrong order of presentation in this example case, the patient might have learned to associate his anxiety with eating gourmet meals, leading to an aversion to some foods rather than to an association of relaxation and pleasantness to elevators.

Does desensitization work? Since Wolpe (1958) first proposed systematic desensitization as a treatment for fears and phobias, literally hundreds of studies have been conducted, virtually all attesting to the efficacy of this intervention in the treatment of fears and phobias (see



David Barlow, Ph.D., a professor at Boston University, is best known for his seminal work in clinical research methodology and the treatment of anxiety disorders. Dr. Barlow founded clinical psychology internships at both the University of Mississippi Medical Center and Brown University, and in 2000 was awarded the Distinguished Scientific Award for the Applications of Psychology by the American Psychological Association. (*Photo courtesy of David Barlow.*)

Emmelkamp, 1994 for a review of these studies). Desensitization procedures have also been found to be effective in the treatment of sexual dysfunction. For example, Cranston-Cuevas and Barlow (1990) found that 50 percent to 70 percent of patients who receive sexual dysfunction treatments that are based on a reduction of anxiety through systematic desensitization procedures show some immediate improvement. More broadly, Berman, Miller, and Massman (1985) conducted a meta-analysis (see chapter 15) of studies comparing systematic desensitization

with cognitive therapy in the treatment of anxiety disorders. Berman et al. concluded that systematic desensitization and cognitive therapy are both effective and are roughly comparable to each other in efficacy. Interestingly, the authors concluded further that therapies that combine both cognitive and desensitization procedures are no more effective than one of the treatments alone.

Although it is apparent now that systematic desensitization is an effective treatment for the reduction of fears and phobias, it is less clear how systematic desensitization achieves its effects. More than 25 years ago, Kazdin and Wilcoxon (1976) conducted a component analysis of systematic desensitization and concluded that none of the three primary steps of this treatment (relaxation, the use of an anxiety hierarchy, and the pairing of relaxation and the hierarchy) is necessary for the reduction of fears and phobias. More recently, Bouton (1994, 2000) demonstrated that the new pairing of the feared stimulus with relaxation in systematic desensitization does not replace the original association between the stimulus and the patient's fear response. Rather, both associations are now available, and the patient may react to the stimulus with either fear or relaxation, depending on a number of different factors (see box 14.1). Indeed, this recent perspective may go a long way in explaining why some patients who respond favorably to systematic desensitization in the short term display the original fearful avoidant behavior months later. Most theorists and researchers now agree that the most important feature of systematic desensitization appears to be the patient's exposure to the feared stimulus (Marks, 1987; Rachman, 1990). Based on this formulation, researchers have now begun to examine the efficacy of simply exposing individuals to the feared objects or situations.

**Exposure Treatments** As is the case with many procedures in behavior therapy, **exposure treatments** have their roots in animal models of psychopathology. For example, psychologist

### THE FAR SIDE® BY GARY LARSON



"Bedtime, Leroy. Here comes your animal blanket."

Behavior therapy for fears and phobias can often involve exposure to the feared objects. (The Far Side® by Gary Larson © 1984 FarWorks, Inc. All Rights Reserved. Used with permission.)

Martin Seligman of the University of Pennsylvania demonstrated in the 1960s that one effective way of teaching a dog to reenter a cage that had previously been associated with shock is to force the dog into the cage and prevent its escape. Although the dog initially shows signs of considerable distress, in time the anxiety and emotionality dissipate (extinguish) and the dog is able to enter the cage to obtain food, something it had not been able to do prior to its exposure to the anxiety-provoking situation (Seligman, 1975; Seligman, Maier, & Greer, 1968).

Behavior therapists drew on these scientific findings, which demonstrate the effectiveness of forcing dogs back into cages in which they had initially experienced fear, in developing exposure therapies for the treatment of fears and phobias. The earliest example of such a therapeutic approach is **implosive therapy**, or flooding

## BOX 14.1

**DOES EXTINCTION DESTROY THE ORIGINAL LEARNING?**

The concept of extinction is an integral part of classical conditioning and, to some extent, operant conditioning as well. In classical conditioning, a stimulus that was conditioned to produce a response by being paired with a biologically significant event loses its ability to do so if it is presented alone, without that event. So, for example, a snake that was paired with pain from a bite to produce fear should lose its ability to evoke fear if it is presented repeatedly in the absence of a painful bite. Similarly, in operant conditioning, withholding reinforcement from a behavior that has been reinforced in the past should ultimately reduce the frequency of that behavior to zero. The ability to change behaviors in response to alterations in environmental contingencies, as Pavlov long ago noted, are vital to successful adaptation.

For many years, psychologists believed that the decrease or elimination of a behavior through extinction was a reflection of the destruction of the original learning (see Rescorla, 1988, 2001). Similarly, counterconditioning, or making a new association to the original stimulus, as is the case with systematic desensitization in which the feared stimulus is reconditioned to a relaxation rather than an anxiety response, was believed to work by replacing the original association with a new association (see Bouton, 2000). Indeed, Wolpe (1958) thought that the relaxation responses conditioned in systematic desensitization “weaken” the bond between the anxiety-evoking stimuli and the anxiety response. More recent research, however, casts serious doubt on this perspective and is helping us gain a better understanding of the fact that, even after it is extinguished or reconditioned, a response can occur again to the original stimulus, a phenomenon known as *spontaneous recovery*.

The results of these investigations, which have important implications for behaviorally oriented ap-

proaches to clinical treatment, suggest that instead of destroying the learned basis of the conditioned behavior, extinction and counterconditioning leave at least part of the original learning and associations in place (Bouton, 1994, 2000). Bouton (1994) argues that both learning and extinction are strongly affected by the context in which they take place. For example, behavioral methods for the treatment of fear and anxiety often involve exposing patients to the threatening stimulus until their fear dissipates or is extinguished. However, the fear-provoking stimulus can still elicit fear under certain conditions. To explain this finding, Bouton and Swartzentruber (1991) contend that extinction or counterconditioning does not cause unlearning of the fear. Rather, the stimulus takes on a second meaning; it is now more ambiguous than it was originally (because it has been paired, for example, with both fear and relaxation), and whether it evokes anxiety or relaxation will depend on the context in which it is presented. Context includes both the physical environment as well as internal states such as emotions and physiological states produced by drugs.

In fact, Bouton (1994) has demonstrated in a number of studies that the original anxiety responses can be retrieved relatively easily when the original context is presented again. He observes, consequently, that because extinction and counterconditioning do not necessarily involve unlearning of an association, there is always the possibility that patients will relapse following clinical treatment. Based on the concept of generalization, Bouton suggests that the likelihood of relapse or recurrence of maladaptive behavior can be reduced by broadening the range of contexts in which the new associations (brought about either through extinction or counterconditioning) are learned.

(Stampfl & Levis, 1967; Wanderer & Ingram, 1990). Implosive therapy attempts to extinguish the fear response by exposing anxious individu-

als to fear-eliciting situations and forcing them to remain in those situations until their arousal is reduced or eliminated.

It is important to recognize that this approach to fear reduction differs dramatically from desensitization procedures. In systematic desensitization or in vivo desensitization the individual is taught to relax and is exposed in slow, gradual, steps to situations that elicit an increasing level of anxiety; the individual is never allowed to experience more than a low level of anxiety before the situation is withdrawn. In contrast, implosive therapy involves in many respects the opposite approach, essentially starting at the top of the anxiety hierarchy. The individual is not taught relaxation methods; she or he is immediately either exposed to or instructed to imagine herself or himself in the most anxiety-inducing situations for a prolonged period of time. Moreover, the patient is instructed to dwell on the worst possible outcome of the situation in order to elicit the greatest level of anxiety. For example, a claustrophobic patient might be instructed to imagine staying in a small room for two hours and to imagine that the room is getting smaller. In implosive therapy, the individual learns that there are no long-term aversive consequences to approaching the feared object or to remaining in the anxiety-inducing situation. People see that they can survive their worst fears, and the feared stimuli lose their potency to elicit anxiety.

The results of a number of studies attest to the effectiveness of exposure-based treatments for fears and phobias. In their reviews of studies examining the efficacy of implosive therapy, Marks (1987) and Spiegler (1998) concluded that exposure is an effective procedure for the treatment of a variety of anxiety disorders and is generally more effective than systematic desensitization. Supporting its effectiveness, DeRubeis and Crits-Christoph (1998) included exposure therapy as an empirically supported treatment for social phobia, agoraphobia, panic disorder, and post-traumatic stress disorder.

As you might expect, implosive therapy initially causes more distress among patients than does systematic desensitization, and for that rea-

son alone many therapists are more comfortable using systematic desensitization. In response to this concern, graduated exposure has been used increasingly in behavior therapy. In this procedure, patients are initially exposed to situations that evoke only minimal levels of anxiety and then gradually progress to more stressful and anxiety-producing stimuli. Interestingly, there is now evidence that graduated exposure may be more effective than intensive exposure (Spiegler, 1998).

A variant of implosive therapy, known as **response prevention**, has been used successfully in the treatment of obsessive-compulsive disorder (e.g., Salkovskis & Kirk, 1989). Patients with obsessive-compulsive disorder (OCD) are characterized by unwanted thoughts and behaviors that they cannot stop. In response prevention, patients are exposed to the stimuli that elicit their obsessive thoughts but are prevented from engaging in the compulsive behavior that they use to reduce the anxiety associated with the stimuli. For example, in the case of an obsessive-compulsive hand washer, response prevention treatment might consist of exposing the patient to dirt and then preventing the patient from washing his or her hands. Typically, exposure and response prevention sessions are continued for extended periods of time (e.g., 2 hours per day over several weeks) and are combined with homework assignments.

A number of studies have documented the effectiveness of exposure and response prevention in the treatment of OCD. For example, in an early study Foa and Goldstein (1978) demonstrated that the combination of exposure and response prevention is more effective than is either component alone. Subsequent positive results were also reported by Foa, Kozak, Steketee, and McCarthy (1992), Marks (1987), and Rachman and Hodgson (1997). Moreover, in a recent review, Abramowitz (1996) reported that therapist-supervised exposure is more effective than self-controlled exposure in the treatment of OCD

and that the addition of response prevention to exposure therapy yields better results than does exposure alone.

This technique has also been applied to patients suffering from bulimia nervosa, based on the assumptions that eating fattening foods leads to anxiety and to fears of gaining weight and that purging reduces the anxiety. From this perspective, bulimia is treated by having bulimic patients eat fattening foods in the therapist's office (exposure) and then having them remain in the office with the therapist until both the urge to vomit and the associated anxiety have dissipated (response prevention). Early studies have reported success using exposure plus response prevention in the treatment of bulimia (e.g., Cooper & Steere, 1995; Leitenberg, Rosen, Gross, Nudelman, & Vara, 1988; G. T. Wilson, Rossiter, Kleifield, & Lindholm, 1986). The results of more recent studies suggest that it is the exposure component of cognitive-behavior therapy and not response prevention that is effective in treating bulimia. G. Terence Wilson, a clinical psychologist at Rutgers University, has conducted several elegant studies over the past decade demonstrating that, although cognitive-behavior therapy is the most effective treatment for bulimia, response prevention does not enhance the effectiveness of this therapy (Wilson, Eldredge, Smith, & Niles, 1997; see also Agras, Schneider, Arnow, Raeburn, & Tekh, 1989). G. T. Wilson and Fairburn (in press) present a comprehensive discussion of the effectiveness of cognitive-behavior therapy in the treatment of eating disorders, clearly supporting the use of this approach to treatment for bulimia.

One interesting question concerns how exposure, relaxation, and systematic desensitization fare in the treatment of anxiety when compared with pharmacotherapy (treatment by medication). Gould, Otto, Pollack, and Yap (1997) recently examined this question by conducting a meta-analysis of 35 studies that included a total of 61 separate treatment interventions for gener-



G. Terence Wilson, Ph.D., is a clinical psychologist at Rutgers University. Dr. Wilson is a major figure in the profession of clinical psychology. In 1994, Dr. Wilson received the Award for Distinguished Scientific Contributions to Clinical Psychology from the American Psychological Association. Dr. Wilson is especially well known for his research on the etiology and treatment of eating disorders. (Photo courtesy of Terry Wilson.)

alized anxiety disorder (GAD), including systematic desensitization, exposure, relaxation, cognitive restructuring, and treatment by anti-anxiety medication. On the basis of their analysis, Gould et al. arrived at two major conclusions: First, both cognitive-behavioral therapy and pharmacotherapy are effective treatments for GAD, and second, there are no substantial differences between these two types of treatment. It will be important in future research to examine whether the combination of cognitive-behavioral

therapy and antianxiety medication is more effective than either treatment alone.

### Difficulties in Social Functioning

**Social Skills and Assertion Training** Behavior therapists have used **social skills training** to treat disorders that are characterized by difficulties in social or interpersonal functioning. Over the past two decades, a large psychological research literature has demonstrated a consistent association between problematic social functioning and psychopathology, most typically depression and anxiety (e.g., Gotlib, Lewinsohn, & Seeley, 1998), but also social phobia (Chambless & Hope, 1996) and schizophrenia (Bellack & Mueser, 1994). Individuals suffering from these disorders report having fewer close friends and, in general, smaller social networks than do persons who are not experiencing elevated levels of psychopathology. Many investigators have interpreted these findings to indicate that people with these particular forms of psychopathology are deficient in their social skills (Segrin & Flora, 2000).

Behavior theorists and therapists have identified a number of verbal and nonverbal components of social skills. For example, patients who report problems in social situations often have difficulty maintaining eye contact, matching the tone of their voice to the content of the conversation, accurately perceiving others' emotions, smiling at appropriate times, correctly interpreting others' nonverbal behaviors, and timing their responses appropriately (e.g., not interrupting the other person or finishing their partner's sentences). Depending on the specific situation, individuals may also have difficulty in initiating or maintaining conversations, in making requests of other people, or in standing up for their rights. All of these deficiencies in basic social skills interfere with developing and sustaining social relationships.

In helping a patient to become more socially skilled or assertive, behavior therapists use a

number of procedures. Bellack and Mueser (1994) reviewed the research that examined social skills training, and they concluded that the most effective programs include many of the following components:

1. Assessment of the patient's behavioral assets, deficits, and excesses in social situations
2. Selection of specific social behaviors for modification
3. Modeling of appropriate behaviors by the therapist
4. Instruction or coaching of appropriate behaviors and role playing and rehearsal by the client
5. Feedback and positive reinforcement of small steps leading to the desired behavior
6. Homework assignments, most often to engage in particular social behaviors outside the therapy

Other investigators have advocated the inclusion of problem-solving skills in protocols of social skills training (e.g., Nezu & Nezu, 1993; O'Reilly, Lancioni, & O'Kane, 2000). All these training components are designed to help the patient learn from the therapist exactly what behaviors are appropriate in various situations and to become more comfortable and adept at engaging in those behaviors. The increased level of social skill, in turn, should lead to a reduction in the patient's level of anxiety and depression in social situations.

This approach to the treatment of social skills deficits and increasing assertiveness has been used successfully in the treatment of shyness, social isolation, schizophrenia, and social phobia and in reducing outbursts of anger and violence in psychiatric patients. It has also been used to treat interpersonal problems in children (Spence & Donovan, 1998). And, in conjunction with other procedures, social skills training has been used to treat marital conflict, depression, and alcohol abuse and dependence. Interestingly, in a recent review, Emmelkamp (1994) concluded



that the improvements in functioning obtained through social skills training are comparable to those attained through systematic desensitization and in vivo exposure.

**Contingency Management** Contingency management is a broad term used to describe a class of procedures based on principles of operant conditioning that change behavior by controlling its consequences. As you no doubt realize, clinical psychologists were not the first to use contingency management techniques. Indeed, every time parents say to their children, “Clean up your room, and then I’ll take you to the mall” or “You shouldn’t have hit your sister: Go to your room and no television for you tonight,” they are using contingency management procedures. The primary contribution of clinical psychology in this area has been to systematize and evaluate a number of these procedures so they may be used more effectively to change maladaptive behaviors. There are many forms of contingency management (see, for example, Masters & Burish, 1987). In the following sections we discuss three of the most common techniques: shaping, contingency contracting, and token economies.

**Shaping** At its simplest, the concept of strengthening a behavior through reinforcement requires that the behavior be emitted and then be reinforced. In practice, however, the process is not that simple—there are many behaviors that are not emitted spontaneously. For example, young children do not spontaneously emit grammatically correct sentences, people who are afraid of dogs do not spontaneously hug the next dog they see, and smokers find it difficult to stop “cold turkey.” In these cases the desired behavior cannot be reinforced because it will not occur naturally; therefore, shaping is used to develop a final behavior by reinforcing successive approximations, or gradual steps, toward the ultimate goal. Initially, behaviors that represent the first step toward exhibiting the desired behavior are reinforced, and then the standard for what repre-

sents a reinforceable behavior is gradually raised until the individual is emitting the final desired behavior. Shaping is generally used in cases in which the person is capable of emitting the desired behavior but has not been able to do so. For example, a shy person whose ultimate goal is to interact easily with people at parties may begin by simply attending a party without any expectation or pressure of talking with anyone, then saying “hello” to one person at the next party, increasing that to two people at the next party, and so on until he or she is comfortable interacting with people in a party situation.

**Contingency Contracting** Contingency contracting typically involves constructing and signing a formal agreement describing exactly the behaviors that are expected of each participant and the precise consequences of the behaviors. Contingency contracts can be made between the therapist and patient, describing in detail both the target behaviors and the consequences of engaging or not engaging in the behavior. For example, a patient who is trying to stop smoking may enter into a contract with the therapist to smoke fewer than 30 cigarettes during the next week or else donate a specified sum of money to an organization he or she dislikes intensely. Contracts frequently are also made between two patients being seen in therapy together, typically spouses, or among family members participating in therapy. It is critical in this technique that behaviors and contingent consequences are spelled out in precise detail for all participants.

One of the most widely used interventions based on operant conditioning and contingency contracting principles is called a parent training program for the treatment of oppositional defiant disorder, which is characterized by noncompliant and aggressive behavior in children (e.g., Barkley, 1998; Forgatch & Patterson, 1998; Long, Forehand, Wierson, & Morgan, 1994). These interventions are used to decrease problematic behaviors in young children (typically

from ages 2 to 10 years) that involve willful defiance of parents, teachers and other adult authorities and aggressive behavior toward peers and adults. Oppositional, noncompliant, and aggressive behaviors are hypothesized to be initiated and maintained by stimuli and consequences in the social environment. Patterson and his colleagues, for example, have described a pattern in which these behaviors have been negatively reinforced by the child's parents (e.g., Forgatch & Patterson, 1998). Recall that negative reinforcement involves increasing the frequency of a be-

havior by withdrawing a negative or aversive stimulus. For example, a parent who, in exasperation, stops making requests of a child and lets the child continue to engage in a problem behavior has negatively reinforced that behavior. Behavioral interventions typically include training the parent in consistent punishment and reinforcement behaviors and developing contingency contracts between the parents and the child. An example of such an intervention in the case of Jason is presented in box 14.2.

#### BOX 14.2

### COGNITIVE-BEHAVIORAL TREATMENT OF ADHD AND ODD: JASON

What surprised Mrs. Newman most was that Dr. Marcus wanted *her* to come to therapy sessions, not Jason. She had expected that Dr. Marcus would meet individually with Jason and provide some type of counseling to make him less angry and help him control his behavior. The more Dr. Marcus explained her approach, however, the more sense it made to Mrs. Newman. And so the treatment plan was laid out—Mrs. Newman would participate in a 12-week treatment program with Dr. Marcus, and she would also take Jason to his pediatrician to be evaluated for medication for the treatment of attention deficit/hyperactivity disorder (ADHD).

The approach outlined by Dr. Marcus is based on extensive research on the treatment of ADHD, oppositional defiant disorder (ODD), and other disruptive behavior disorders. These problems can be conceptualized as deficiencies in children's capacity for self-regulation (Barkley, 1997a). Importantly, interventions designed to teach children self-control skills directly have generally been ineffective in the treatment of ADHD and ODD (Abikoff, 1991). In fact, only two specific treatments have been found to be effective in treating ADHD and ODD: psychostimulant medication and parent training. Indeed, working with parents to help them better manage

their child's noncompliant, oppositional, and aggressive behavior has been shown to be an effective treatment of ODD (Forgatch & Patterson, 1998) and to be a useful supplement to medication in the treatment of ADHD (Hinshaw et al., 2000).

Dr. Marcus followed a standardized treatment protocol developed by psychologist Russell Barkley (1997b; 2000) to help Mrs. Newman manage Jason's behavior. After completing a careful behavioral assessment of Jason's problems (see chapter 10), they met on a weekly basis. Dr. Marcus outlined tasks for Mrs. Newman to complete each day at home with Jason, and when they met for each session they reviewed Mrs. Newman's progress and made necessary adjustments in the treatment. Because research has demonstrated that disruptive behavior disorders are associated with highly negative and aversive interactions between parents and children (Patterson, 1997), the first component of the treatment focused on reestablishing positive interactions between Jason and his mother. Mrs. Newman scheduled 30 minutes of "special time" each day to spend with Jason, playing games and participating in activities that he selected. Second, Dr. Marcus taught Mrs. Newman to be more effective in making requests and giving commands to Jason. Parents of noncompliant chil-

**BOX 14.2 (continued)**

dren often have difficulty delivering clear directives to their children, and their children then fail to comply with these requests. Third, Dr. Marcus and Mrs. Newman developed and implemented a point system whereby Jason would be rewarded with poker chips for positive behavior, which he could cash in for specific rewards (e.g., small toys or activities such as going to a movie; this contract is presented in table 14.2). Jason's teacher also completed a daily report on his behavior at school, and he could earn additional points for good behavior at school. Finally, Dr. Marcus taught Mrs. Newman to use time-out as a response to Jason's noncompliance and his other negative behaviors. After receiving a warning from his mother for a specific misbehavior, Jason would have to sit in a time-out chair for one minute.

None of these steps was easy for Mrs. Newman to implement, because the pattern of negative behavior between her and Jason was well established by the time she sought help. Based on her experience, Dr. Marcus warned Mrs. Newman that Jason's problem behaviors might increase initially before they improved, especially when she implemented the time-out procedure. Mrs. Newman kept records of Jason's problem behaviors and reviewed them with Dr. Marcus each week. They discussed difficulties that Mrs. Newman encountered and charted the slow but steady reductions in Jason's noncompliant and aggressive behaviors.

At the same time that Mrs. Newman was participating in this parenting program, she followed through with the referral to Jason's pediatrician. The

**TABLE 14.2**  
**Jason's Contingency Contract**

**Home Point System**

Jason can earn points at home for the following activities:

<b>Activities</b>	<b>Points</b>	<b>Rewards</b>	<b>Points</b>
Getting up on time for school	5	Playing on the computer for 30 minutes	10
Making his bed in the morning	5	Watching 30 minutes of TV	10
Completing homework after school	5	Riding bike after school	10
Emptying the kitchen wastebasket	5	Renting a movie or video	20
Feeding the cats at dinnertime	5	Buying a toy for \$5 or less	15
Clearing the table after dinner	5	Going to the movies	30
Washing the dinner dishes	10	Having a friend for a sleep-over	35
Mowing the lawn	15		
Taking a bath in the evening	5		
Brushing teeth	5		
Getting to bed on time (8:30)	5		

**Jason's Record**

<b>Activity or reward</b>	<b>Points earned</b>	<b>Points spent</b>	<b>Balance</b>
Got up on time	5		5
Made bed	5		10
Fed cats	5		15
Cleared table	5		20
Played on computer		10	10
Brushed teeth	5		15
Mowed lawn	15		30
Rented movie		20	10

**BOX 14.2 (concluded)**

pediatrician reviewed Dr. Marcus's report describing the results of her behavioral assessment of Jason. Based on the diagnosis of ADHD, the pediatrician prescribed methylphenidate, a psychostimulant medication. This medication works by stimulating those portions of the brain that are responsible for sustained attention and self-control. Extensive research has demonstrated that stimulant medication is effective in managing symptoms of ADHD; in fact, a re-

cent large-scale study of over 500 children has shown that medication combined with behavior therapy is the most effective approach to the treatment of ADHD (Arnold et al., 1997; Hinshaw et al., 2000). Thus, the dual approach of behavioral parent training conducted by a psychologist in combination with medication prescribed and monitored by a physician is the most effective treatment protocol for ADHD currently available.

Numerous controlled outcome studies have demonstrated that parent training is superior to no treatment and to other forms of nonbehavioral child therapy in decreasing noncompliant and oppositional behavior and in increasing more positive social behaviors (e.g., Patterson & Chamberlain, 1994; Stoolmiller & Patterson, 1997; Wierson & Forehand, 1994). These studies highlight the importance of contingency contracts in improving child noncompliance and oppositional behavior. Contingency contracts have also been used successfully in the treatment of substance use (e.g., Saxon, Calsyn, Kivlahan, & Roszell, 1993), family dysfunction (Blechman, 1980), and marital distress (Bennun, 1987). As table 14.2 illustrates through examples based on Barkley's (1997b) work, an important component of contingency contracts may be the use of tokens or points gained and lost from engaging in specific behaviors, points that can be exchanged for goods or privileges. Nowhere is this system more explicit than in the development of token economy programs.

**Token Economy Programs** **Token economy programs** represent applications of contingency management principles to groups of people rather than individuals. In fact, much of our society is essentially a token economy system based on principles of contingency management: People are rewarded with tokens (money, grades) contingent on their performance or behavior. There are several aspects to the construction and

implementation of token economy programs. For example, the behaviors that are to be changed (most often, increased) must be operationalized, and the tokens or other symbolic reinforcers must be selected. Participants must be able to exchange these tokens for goods, services, or privileges. For example, patients may be allowed to exchange tokens for specific privileges (e.g., an extra hour of television, an out-of-hospital trip) or for goods, such as magazines; children may be offered snacks or book time in exchange for tokens they have earned by engaging in the specified behaviors. In all cases, the precise rate of exchange must be specified before the tokens are earned.

Token economy programs have most typically been developed and used with institutionalized populations. In fact, one of the first reports of a systematically organized token economy program described the use of tokens and reinforcements to increase socially desirable behaviors in a sample of hospitalized chronic psychiatric patients (Ayllon & Azrin, 1965). Since that report, there have been numerous studies of the effectiveness of token economy systems in both psychopathological samples (e.g., Foxx, 1998; Mohanty, Pati, & Kumar, 1998) and "normal" populations (e.g., Swain & McLaughlin, 1998). Importantly, there is empirical evidence that the behaviors that have been learned and reinforced in a token economy system do generalize outside that specific environment. Paul, Redfield, and Lentz (1976), for example, found that patients

who had been in a token economy program were more able to stay out of the hospital following discharge than were patients who received traditional hospital care.

### **Reducing Unwanted Behaviors: Aversive Conditioning**

The goal of **aversive conditioning** is to reduce the occurrence of unwanted behaviors, such as excessive drinking, smoking, or eating, by pairing the behavior with a noxious stimulus. Thus, a behavior that was initially associated with pleasure or reward, like smoking, is conditioned to be associated instead with negative emotions and feelings, such as anxiety or nausea. As you might imagine, these procedures are often unpleasant and may involve noxious chemicals or shock. Consequently, aversive conditioning is typically used only when more positive procedures have failed to reduce or eliminate the problematic behavior.

Most frequently, aversive conditioning is used to eliminate addictive or destructive behaviors. For example, to treat a patient's heavy cigarette smoking, a therapist may pair each inhalation of smoke with an aversive stimulus, such as a noxious odor blown in the patient's face or a mild electrical shock administered to the patient's finger. After a number of such pairings, the patient begins to associate cigarette smoking with the unpleasant feelings evoked by the noxious odor or shock. Similarly, to reduce or eliminate excessive alcohol consumption, a therapist might mix a nausea-inducing drug into an alcoholic drink so that the patient will become nauseous and vomit after ingesting the drink. Again, a number of such pairings leave the patient feeling sick simply at the sight of the alcoholic drink. Finally, aversive conditioning has been used when the behavior to be reduced is self-injurious or destructive. For example, some severely disturbed psychiatric patients and some autistic children gouge their skin, punch themselves, or bang their heads against the wall, sometimes causing irre-

versible bodily damage. Although such patients are often kept in restraints, these solutions unfortunately also prevent the patients or children from engaging in adaptive behaviors. Aversive electric shock, administered contingent on the self-injurious behavior, has been demonstrated to successfully reduce this maladaptive behavior (e.g., Lovaas & Buch, 1997).

In general, the outcome research on aversion therapy has yielded equivocal results. For example, although the drug Antabuse (Disulfiron), which interacts with alcohol to produce nausea, has been found to temporarily reduce alcohol intake, its long-term effectiveness has been called into question (e.g., Barrera, Osinski, & Davidoff, 1994). Electric shock has also been assessed in the treatment of alcoholism and has not fared particularly well (e.g., E. O. Wilson, 1978). Interestingly, although electric shock has been reported to temporarily suppress smoking and overeating (e.g., Johnson, 1997), it is much less effective in the long-term treatment of these problems (Russell, Armstrong, & Patel, 1976), a conclusion that applies to most forms of aversive conditioning (e.g., Lichtenstein, 1982). Finally, we must emphasize here that, even in situations in which aversion therapy has been found to be successful, therapists typically recommend that these methods not be used unless other, less painful methods have failed.

## **COGNITIVE BEHAVIOR THERAPY**

### **Historical Foundations**

Behaviorism and the behavior therapy procedures we have described in this chapter dominated the thinking and practice of clinical psychology from the 1930s, when Watson and then Skinner developed their behavioral theories, to the early 1970s. In 1974 Dember described what he referred to as a "cognitive revolution" in clinical psychology, reconceptualized more recently by Meichenbaum (1995) as a "cognitive evolution." Regardless of whether the movement

was a revolution or an evolution, there is no question that clinical psychology, and indeed psychology as a whole, was becoming more concerned with cognitive processes. Increasing attention was being given in psychology to information-processing models of cognition, and there was growing dissatisfaction with the simple behaviorist stimulus-response learning model. As Mahoney (1984) stated, "By the late 1970s . . . behavior therapy, like psychology in general, had 'gone cognitive'" (p. 9).

The first efforts to include an explicit cognitive focus in behavior therapies attempted to incorporate cognitive factors into existing behavioral treatments. Bandura's work on observational learning represented a major step in the integration of cognitive and symbolic processes into behavior therapy. In his 1969 volume, *Principles of Behavior Modification*, Bandura emphasized the importance of modeling, or observational learning, in understanding the development of some forms of anxiety and in the treatment of these problems. Bandura argued that all learning that could occur through direct experience could also take place vicariously through observation of another's behavior and its consequences. In suggesting that behavior change can be mediated by cognitions, Bandura developed one of the first forms of cognitive-behavior therapy.

### Modeling

**Albert Bandura**, a professor at Stanford University, has been a major figure in psychology for more than 40 years. He pioneered the therapeutic use of **modeling**, or observational learning, to treat fears and phobias as well as to teach positive skills and behaviors. Bandura noted that modeling can be used not only to teach individuals adaptive behaviors that were not previously in their repertoire but also to facilitate or inhibit the expression of behaviors that they are already capable of performing. It is difficult to imagine

how some forms of learning could occur without the use of modeling. As Bandura (1977) stated, "One does not teach children to swim, adolescents to drive automobiles, and novice medical students to perform surgery by having them discover the appropriate behavior through the consequences of their successes and failures" (p. 12). Thus, rather than through learning that takes place exclusively by operant conditioning, in which novel behaviors would be broken down into small components and each gradually shaped to form a final complex behavior, modeling allows more complex behaviors to be learned relatively rapidly by observation.

Bandura has found that behaviors that are rewarded are more likely to be modeled than are behaviors that are either punished or that are not followed by a consequence. This finding forms the theoretical foundation for the use of treatments that rely on modeling procedures to increase rates of adaptive behaviors. For example, in one of the earliest studies in this area, Bandura, Grusec, and Menlove (1967) found that simple modeling was effective in treating a group of preschool children who were afraid of dogs. Bandura subsequently demonstrated that stronger results could be obtained using a procedure called participant modeling, essentially having a live model guide the participant in emitting the desired response. Using participant modeling, Bandura, Blanchard, and Ritter (1969) reported the successful treatment of snake phobia in a sample of young adults. Modeling has now been used successfully not only to reduce fears and phobias but also to treat social phobia or shyness, obsessive-compulsive disorder, impulsivity, and attention deficit/hyperactivity disorder and to reduce physical aggression (e.g., Hollon & Beck, 1994; Rosenthal & Steffek, 1991; Salkovskis & Kirk, 1989).

How does modeling, or observational learning, work? Bandura (1997) has argued persuasively that the positive effects of modeling treatments are due to the increase in the individual's self-efficacy that is brought about through

modeling. Self-efficacy refers to “beliefs in one’s capabilities to organize and execute the courses of action required to produce given attainments” (p. 3). Bandura posits that modeling promotes a sense of mastery or competence in the individual, and it is this sense of mastery that leads to the beneficial effects of modeling. In support of this position, several studies have now demonstrated that behavioral improvement can be predicted directly from change in level of self-efficacy (see Bandura, 1997, 2000).

### The Transition to Cognitive Therapy

Bandura’s theory and studies of observational learning provided the foundation for subsequent integrations of cognitive and behavioral aspects of therapy. Michael Mahoney’s 1974 book, *Cognition and Behavior Modification*, and Donald Meichenbaum’s 1977 volume, *Cognitive-Behavior Modification: An Integrative Approach*, both further developed the role of cognition as a mediator of change in behavior therapy and strengthened the practice of cognitive-behavior therapy. At about the same time, **Albert Ellis** and Aaron Beck were refining their development of therapies for emotional disorders that not only included a strong cognitive component but, more important, gave primary emphasis to dysfunctional cognitions, or problematic patterns of thinking, as a direct cause of psychological distress and as a critical focus in bringing out therapeutic change. The greater emphasis on cognition in these theories and treatments led them to be referred to not as cognitive-behavior therapies but, more simply, as cognitive therapies.

### COGNITIVE THERAPY

Both Albert Ellis’s **rational-emotive therapy** and Aaron Beck’s **cognitive therapy** have had a profound impact on the practice of clinical psy-

chology. Ellis and Beck were trained as psychoanalysts but were frustrated at the relatively passive role of the therapist in psychoanalysis and the slow progress of therapy. Both Ellis and Beck moved away from psychotherapy’s psychoanalytic focus on unconscious drives and psychosexual stages and developed a strong interest in the importance of cognitions, or thoughts, in affecting mood and behavior. Based on their view of the central role of cognitions in contributing to problems in emotions and behaviors, Ellis and Beck developed therapeutic interventions aimed at changing the way people think in order to improve their emotional and behavioral functioning.

### Ellis’s Rational-Emotive Therapy

Ellis (1962, 2000) formulated what has come to be known as an A-B-C theory of dysfunctional behavior. Contrary to the prevailing view at the time, Ellis argued that stressful life events, referred to as *activating events* (*A*), do not cause psychopathology or emotional *consequences* (*C*) such as depression and anxiety. Instead, Ellis contends that it is the *irrational beliefs* (*B*), or unrealistic interpretations, that people have about events in their lives that lead them to become depressed or anxious. Ellis believes that when we experience a negative or unpleasant event, we have logical and rational beliefs about that event; in addition, however, we also “automatically” engage in a series of irrational or dysfunctional beliefs about the event. For example, if we fail a midterm examination we may have such logical thoughts as “it’s unfortunate that I failed—I didn’t study hard enough and I must make sure that I study harder for the final exam” or “I don’t seem to understand this material—maybe I had better seek extra help in this course.” Ellis argues that while these logical, rational thoughts may lead to disappointment or sadness, they will not lead to more severe emotional states such as depression or anxiety. According to Ellis, if we are

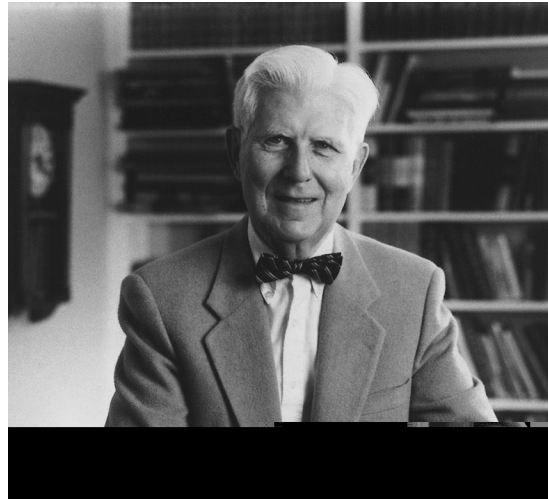
experiencing these more dysfunctional emotions we must also be holding a number of irrational beliefs about failing the midterm, such as “I’m stupid—I’ll never be able to pass this course and I will fail my year” or “If I can’t pass an easy exam like that I’m not worthy of being at this university.”

Ellis believes that there are a number of irrational beliefs that are common to many of us. These beliefs are presented in box 14.3. In rational-emotive therapy, Ellis focuses on identifying the patient’s specific irrational beliefs that are contributing to his or her experience of depression, anxiety, hopelessness, or despair. Once these irrational beliefs are identified, Ellis adds a D and an E to his A-B-C theory. Ellis teaches patients to *dispute* (D) their irrational or illogical beliefs. In this process, patients learn to argue with their irrational beliefs and to substitute more rational and adaptive beliefs in their place. And finally, Ellis has the patients evaluate the *effects* (E) of disputing their irrational beliefs. If the treatment is successful, the effects should be evident in reductions of feelings of depression, anxiety, or malaise. These reductions of negative affect serve to reinforce the patient’s identification and disputation of irrational beliefs and ideas as well as the substitution of more adaptive cognitions.

### Beck’s Cognitive Therapy

Perhaps because Beck formulated his cognitive theory of psychopathology in more clearly testable terms than did Ellis, it is Beck’s ideas about the role of cognition in emotional disorders that have been examined most systematically in clinical research. In the remainder of this chapter, therefore, we describe the foundations of cognitive therapy and how it has been applied to a number of psychological disorders.

As we described in chapter 4, Beck (1967) developed cognitive therapy from his clinical experience with depressed patients. Beck’s obser-



Aaron T. Beck, M.D., is considered to be the founder of cognitive therapy. Over the past 40 years Dr. Beck has conducted empirical investigations of the psychopathology of depression, suicide, anxiety disorders, panic disorders, and substance abuse, and has developed cognitive therapy approaches for these disorders. Dr. Beck has received Distinguished Scientists Awards from the American Psychological Association and the Society for Psychotherapy Research. (Photo courtesy of Aaron T. Beck.)

vations that the dreams of depressed patients were full of negative content led him to posit that negative thoughts play a central role in the onset and course of depression. He postulated that depressed people have a negative view of themselves and the world and are hopeless about the future. Beck further theorized that depressed people have negative cognitive schemas, or structures through which they perceive and interpret their experiences. These negative schemas are always part of a person who is vulnerable to becoming depressed, but they are essentially unconscious; they become activated when the individual experiences a stressful event. Thus, a person who has a negative schema involving rejection and abandonment will become depressed when a partner leaves him or her. Similarly, individuals will become anxious if they have a schema involving threat or danger and are faced



## BOX 14.3

**ALBERT ELLIS'S LIST OF COMMON IRRATIONAL IDEAS**

Albert Ellis (Ellis, 1994; Ellis & Grieger, 1977) has offered a number of irrational beliefs or ideas that he contends are held by many people in our society. Ellis maintains that the greater the degree to which people ascribe to these beliefs, the greater the likelihood that people will exhibit problematic or debilitating functioning.

1. I absolutely must have sincere love and approval almost all the time from all the significant people in my life.
2. I must be thoroughly competent, adequate, and achieving in all respects, or I must at least have real competence or talent at something important; otherwise I am worthless.
3. People who harm me or who do a bad thing are uniformly bad or wicked individuals, and I should severely blame, damn, and punish them for their sins and misdeeds.
4. When things do not go the way I would like them to go, life is awful, terrible, horrible, or catastrophic.
5. Unhappiness is caused by external events over which I have almost no control. I also have little ability to control my feelings or rid myself of feelings of depression and hostility.
6. Some things are dangerous or fearsome, so I must become terribly occupied with them and upset about them.
7. I will find it easier to avoid facing life's difficulties and responsibilities than to face them.
8. My past remains all-important, and because something once strongly influenced my life, it must continue to determine my feelings and behavior today.
9. People and things should turn out better than they do; it is awful and horrible for me if I do not quickly find good solutions to life's hassles.
10. I can find happiness by being passive and non-committal in life.
11. There is always a single correct solution to human problems, and if that solution is not found, I must be quite upset.
12. I give myself a global rating as a human, and my general worth and self-acceptance depend on the goodness of my performance and the degree that people approve of me.

with a relevant stressful event that activates the schema.

### **Cognitive Therapy for Depression and Anxiety**

Based on his theoretical formulations, Beck developed cognitive therapy for the treatment of depression and anxiety. Beck, Rush, Shaw, & Emery (1979) describe cognitive therapy in the following way:

Cognitive therapy is an active, directive, time limited, structured approach used to treat a variety of psychiatric disorders . . . It is based on an underlying theoretical rationale that an individual's affect and

behavior are largely determined by the way in which he structures the world . . . His cognitions (verbal or pictorial "events" in his stream of consciousness) are based on attitudes or assumptions (schemas), developed from previous experiences. For example, if a person interprets all his experiences in terms of whether he is competent and adequate, his thinking may be dominated by the schema, "Unless I do everything perfectly, I'm a failure." Consequently, he reacts to situations in terms of adequacy even when they are unrelated to whether or not he is personally competent. (p. 3)

As you might expect given this conceptualization, cognitive therapy focuses primarily on identifying and changing maladaptive thoughts or cognitions, with the belief that these changes

will lead to a reduction in symptoms of distress. In addition, however, cognitive therapists may also assign behavioral homework to patients and give them training in problem-solving skills (it may be more accurate, therefore, to call it cognitive-behavior therapy). Cognitive therapy is time-limited: it rarely exceeds 30 weekly sessions and typically ranges from 15 to 25 sessions.

In the first few sessions of cognitive therapy, the therapist explains the cognitive theory of emotional disorders to the client, emphasizing how negative cognitions contribute to distress. The client is taught the importance of being able to identify, evaluate, and replace negative automatic thoughts with more positive cognitions. The therapist attempts to engage the client as a collaborator, or a fellow scientist in therapy, a process referred to as collaborative empiricism. Working together, the therapist and client test the logic and consistency of each identified negative thought, and the client is encouraged to change her or his cognitions to be more consistent with the available evidence and logic. The therapist teaches the client behavioral coping strategies, such as problem-solving skills and assertiveness training, to help her or him in using these more positive cognitions.

The middle sessions of cognitive therapy are devoted to helping the client identify and modify the basic underlying beliefs that lead him or her to have negative thoughts. These beliefs may include, "I am not a worthwhile person," "I do not deserve to be loved," "I will fail when I try to do something new," or other, similar beliefs. It is important to note that the underlying beliefs that are the focus of the middle sessions of cognitive therapy are more general and all-encompassing than are the more specific negative automatic thoughts that were identified in the first sessions. Cognitive therapists theorize that these underlying global beliefs lead to the more specific beliefs that trigger an episode of depression or anxiety. In cognitive therapy, therefore, the specific negative cognitions are identified first, be-

cause they are closer to the surface. Then, when the client has had some experience with the process of therapy, the deeper and more global beliefs are examined and, in collaboration with the client, challenged.

In the final sessions of cognitive therapy (typically sessions 12 through 16), the therapist has two major goals. First, the therapist works with the client to solidify the gains the client has already made in therapy. Thus, the therapist attempts to broaden the range of negative cognitions that the client has identified as problematic and to strengthen the more positive cognitions and behaviors that the client has used to improve his or her functioning thus far. Second, because many emotional disorders like depression and anxiety have a high rate of recurrence, or relapse, the therapist focuses in the final sessions of cognitive therapy on trying to prevent recurrence of the disorder. Here, the therapist makes sure that the client has adequately identified the underlying dysfunctional attitudes and beliefs that gave rise to the negative cognitions and works with the client to anticipate the kinds of life stressors that he or she may encounter in the future. Indeed, many cognitive therapists role-play adaptive responses and cognitions to these anticipated adverse events and help their clients become aware of subtle emotional cues that they are under stress and should engage in positive cognitions. An example of cognitive therapy is presented in box 14.4, describing the treatment of Phillip, who is experiencing social anxiety.

### Evaluation of Cognitive Therapy

Given that cognitive theory and therapy originated in an attempt to understand and treat depression (e.g., Beck, 1967), it is not surprising that the majority of studies examining the effectiveness of cognitive therapy have focused on depression. In fact, cognitive therapy and cognitive-behavior therapy for depression have now been evaluated in over 80 controlled studies (American Psychiatric Association, 2000). The

## BOX 14.4

**COGNITIVE THERAPY FOR SOCIAL ANXIETY: PHILLIP**

Dr. Marcus had considerable experience helping clients who presented with problems like Phillip, people who had an unreasonable fear of social or performance situations. Having administered a structured clinical interview to Phillip, Dr. Marcus was able to confirm her initial impression that he was suffering from diagnosable social phobia. She knows from her training as a clinical psychologist that cognitive-behavior therapy is an effective treatment for social phobia, and she proceeds to share with Phillip her understanding of social phobia from this perspective. Dr. Marcus tells Phillip that his negative thoughts are a major source of his difficulties. Individuals with social phobia believe that some or all social situations are dangerous because of their potential for negative evaluation, which leads to feelings of embarrassment, rejection, and low self-esteem. Dr. Marcus continues by informing Phillip that his negative thoughts become increasingly powerful as the day of his presentation looms closer and become overwhelming when he is actually presenting. She suggests that Phillip misperceives members of the audience as viewing him critically and that these thoughts interfere with his presentation, leading to a poorer performance. This poor performance leads to more negative thoughts and to physical symptoms of anxiety, such as increased heart rate and shortness of breath, which further impair his performance. This, Dr. Marcus explains to Phillip, is the vicious circle of negative thoughts affecting performance, which in turn leads to more negative thoughts and other symptoms of anxiety. Dr. Marcus also points out that Phillip may not be aware of these negative thoughts. It is likely that he has experienced these thoughts so often that they have become automatic.

Phillip had never thought about his fear of presentations and his physical symptoms in these terms before. He hadn't heard about "dysfunctional thoughts" before meeting Dr. Marcus, but her explanation of his difficulties made sense to him, and he was eager to work with her to put his fears behind him. Dr. Marcus explained that she was going to use

a combination of relaxation techniques, exposure to the source of his anxiety, cognitive techniques, and extinction techniques in treating Phillip. She explained that Phillip was also going to have homework assignments to help him practice the skills he would learn in the therapy sessions. To prepare him for the exposure procedures, Dr. Marcus gave Phillip a relaxation audiotope and asked him to follow the instructions on the tape twice each day. She gave Phillip a self-monitoring log to record his relaxation sessions (see figure 14.1). She emphasized that it would be important for Phillip to practice the progressive muscle relaxation procedure regularly to enable him to cue himself into a relaxed state whenever he needed to.

Dr. Marcus then worked with Phillip to identify his dysfunctional thoughts about giving presentations at work. Over the course of two sessions, Phillip identified the following thoughts: "I know I will be anxious in the presentation"; "My coworkers will see that I am anxious and think I am ridiculous"; "I will make a fool of myself"; "I really don't know what I am doing at this job." Phillip was afraid that he would not be able to control overt signs of anxiety such as blushing and his voice cracking and that he would have difficulty thinking clearly. And his greatest fear was that he would have another panic attack like the one he experienced recently when he was unable to breathe and felt as if he was having a heart attack. Because of his fears, he thought, the presentation would go badly and he would be evaluated as being incompetent.

Dr. Marcus began the exposure component of the treatment by having Phillip first relax, as he had learned to do from the audiotope, and then had him imagine giving a presentation to his coworkers. She had Phillip imagine starting off well, but then fumbling with his papers and losing his place in the presentation. It was important for the treatment that Phillip continue imagining this experience even though he was starting to become anxious. In preventing Phillip from avoiding the situation, Dr. Marcus was using a procedure known as exposure plus

**BOX 14.4 (continued)**

<b>Relaxation Record</b>			
Rate relaxation and concentration at the end of each practice, using the scale below:			
0-----1-----2-----3-----4-----5-----6-----7-----8			
none      mild      moderate      strong      excellent			
DATE	PRACTICE	RELAXATION AT THE END OF THE EXERCISE	CONCENTRATION DURING THE EXERCISE
	In Session		
	1		
	2		
	1		
	2		
	1		
	2		
	1		
	2		
	1		
	2		
	1		
	2		
	1		
	2		
	1		
	2		

**FIGURE 14.1**  
Phillip's self-monitoring log for recording his relaxation practice sessions at home.

response prevention, which has been found to be effective in treating anxiety because it leads to extinction of the anxiety in the presence of the source of threat.

Phillip was able to continue imagining himself in the situation, and his anxiety level slowly started to

subside. Over the next few sessions, Dr. Marcus had Phillip imagine giving presentations under increasingly difficult circumstances, each time encouraging him to continue imagining himself in the situation even as he was becoming increasingly anxious. Importantly, each time Phillip's anxiety level rose, it

**BOX 14.4 (concluded)**

fell by the end of the session even though he was continuing to imagine himself in the situation. Phillip continued to practice relaxation, and during the treatment sessions, Dr. Marcus began to work with Phillip to identify his dysfunctional thoughts as he was imagining himself giving a presentation. Dr. Marcus and Phillip identified more adaptive thoughts, and Phillip practiced these thoughts as he gave presentations in Dr. Marcus's office. Dr. Marcus also assigned Phillip homework of giving brief presentations to his staff and monitoring his thoughts

and anxiety level. Phillip was able to identify specific cognitive distortions that he was making during the presentations, but he was also able to formulate and substitute more rational and adaptive thoughts. By the end of treatment (15 sessions), Phillip was able to give presentations at work without experiencing debilitating anxiety. At a 6-month follow-up session with Dr. Marcus, Phillip reported that, while he did not enjoy making the presentations, he had not avoided a single event and thought that he was doing a good job.

results of these clinical trials are consistent: It is clear now that cognitive therapy is an effective treatment for unipolar depression. Indeed, cognitive therapy was identified by the Task Force on Promotion and Dissemination of Psychological Procedures of Division 12 of the APA (Chambless & Hollon, 1998) as a "well-established treatment" (see chapter 15). Although there are exceptions (e.g., N. S. Jacobson et al., 1996; Shapiro, Barkham, Rees, & Hardy, 1994), cognitive therapy has generally been found to be as effective as (and sometimes more effective than) alternate forms of treatment for depression, including antidepressant medication (DeRubeis, Gelfand, Tang, & Simons, 1999; Hollon, Haman, & Brown, in press). At the same time, however, it is important to realize that, despite the explicit focus of cognitive therapy on the prevention of relapse, about two-thirds of depressed patients who receive cognitive therapy have another episode of depression within two years (Gortner, Gollan, Dobson, & Jacobson, 1998), a problem that also plagues other forms of psychotherapy. We will examine this research in more detail in chapter 15.

Because not all depressed clients respond to cognitive therapy, investigators have begun to examine whether there might be particular client characteristics that are associated with better outcomes. Put another way, the question these researchers are asking is, "Do some types of clients

respond better to cognitive therapy than other types of clients?" Although this research has not yet yielded consistent results, there are a few unexpected findings that have emerged. For example, even though cognitive therapy requires clients to use logic to evaluate their beliefs, level of intelligence is not associated with outcome of cognitive therapy for depression (Haaga, DeRubeis, Stewart, & Beck, 1991). Similarly, because cognitive therapy is posited to work by reducing the level of dysfunctional cognitions, it would be reasonable to think that depressed patients with the highest levels of dysfunctional thinking would benefit the most from this form of treatment. Paradoxically, it appears that just the opposite is the case: Patients with lower levels of dysfunctional thinking have been found to respond best to cognitive therapy (e.g., Jarrett et al., 1991). Interestingly, patients with the most dysfunctional cognitions also tend to have the most severe depressions (Whisman, 1993) and are also relatively unresponsive to antidepressant medication as well (Sotsky, Glass, Shea, & Pilkonis, 1991). Finally, Barber and Muenz (1996) found that patients who engage in avoidance behaviors in relationships do better in cognitive therapy than in interpersonal psychotherapy, whereas patients with a more obsessive style show the opposite pattern of response.

Finally, it is important to point out here that cognitive therapy has been found to be effective

## BOX 14.5

**COGNITIVE-BEHAVIOR THERAPY FOR CHRONIC PAIN**

One of the broadest and most successful applications of cognitive therapy, or cognitive-behavior therapy, has been in the treatment of chronic pain. Millions of individuals suffer from chronic pain associated with a variety of conditions, including headache, various forms of stomach and abdominal pain (e.g., colitis, irritable bowel disorder), back pain, arthritis and other rheumatoid diseases, AIDS, and cancer. Although a number of medications are effective in managing chronic pain, most have negative side effects, including being addictive. As a result, cognitive-behavioral researchers and therapists have employed and evaluated methods to help patients learn to better manage and cope with their pain and its consequences for their daily functioning. A large body of empirical research has demonstrated that these methods are highly effective in managing chronic pain (Compas, Haaga, Keefe, Leitenberg, & Williams, 1998; Morley, Eccleston, & Williams, 1999).

Behavioral, cognitive, and cognitive-behavioral interventions for chronic pain typically include sev-

eral elements. For example, some treatments are based on principles of operant theory and focus on reducing the social reinforcements and attention that are often contingent on both pain behavior and the loss of functioning that often accompanies chronic pain (e.g., Fordyce, 1988, 1993). These methods have been used successfully in the treatment of chronic low back pain, an often debilitating condition that affects millions of Americans. Behavior therapy approaches to the treatment of pain involve reinforcing adaptive or healthy behaviors, such as regular exercise, and talking about topics that are unrelated to the pain (in an attempt to reduce the preoccupation with pain that often characterizes the interactions of chronic pain patients). At the same time, reinforcement is withdrawn for those behaviors that serve to maintain the pain and reduce normal activities. These maladaptive behaviors may include spending time in bed or lying down, moving in an excessively guarded or cautious manner, and talking or complaining about pain. This operant behavior therapy approach has been shown to be effec-

in the treatment of disorders other than depression. In their recent review of empirically supported psychotherapies for adults, DeRubeis and Crits-Christoph (1998) noted that cognitive therapy has been used successfully to treat generalized anxiety disorder, obsessive-compulsive disorder, and panic disorder. There are also growing literatures documenting the effectiveness of cognitive therapy in the treatment of eating disorders such as bulimia and anorexia nervosa (e.g., Kinoy, 2001; Ricca, Mannucci, Zucchi, Rotella, & Faravelli, 2000; Whittal, Agras, & Gould, 1999), marital difficulties (e.g., Emanuels-Zuurveen & Emmelkamp, 1996; Epstein, Baucom, & Daiuto, 1997), and sexual dysfunction (Nobre & Gouveia, 2000). Furthermore, cognitive therapy and cognitive-behavior therapy have also been found to be effective in the treatment of difficulties that have a significant physi-

cal as well as psychological component. Because the treatment of chronic pain represents an excellent illustration of this point, we describe cognitive and cognitive-behavioral approaches to this problem in greater detail in box 14.5.

In addition to these studies demonstrating that cognitive therapy is effective in the treatment of various forms of psychopathology in adults, there is a rapidly evolving literature indicating that cognitive therapy is also effective in treating emotional disorders in children. For example, several investigators have examined the efficacy of cognitive-behavior therapy in the treatment of child anxiety and have reported beneficial effects both at immediate posttreatment and at one- to three-year follow-up assessments (e.g., Barrett, Dadds, & Rapee, 1996; Kendall, Flannery-Schroeder, Panichelli-Mindel, & Southam-Gerow, 1997). Other researchers have reported

**BOX 14.5 (concluded)**

tive in the treatment of chronic low back pain (e.g., Nicholas, Wilson, & Goyen, 1991; Turner, Clancy, McQuade, & Cardenas, 1990).

A second approach to the treatment of pain utilizes biofeedback, a procedure that involves increasing patients' awareness of and their ability to control physiological processes that are related to pain. The feedback is provided via electronic devices that can be used to measure muscle tension, skin conductance, heart rate, blood pressure, or other indications of physiological tension or arousal. Biofeedback has been shown to be effective in the treatment of several pain conditions, most notably migraine headaches (e.g., Blanchard, Peters, & Hermann, 1997; Kropp, Gerber, Keinath-Specht, Kopal, & Niederberger, 1997; Sarafino & Goehring, 2000).

A third psychological approach to the treatment of pain involves systematic efforts to enhance the ways that patients cope with their pain. This approach includes the use of methods to distract the patient's attention from the pain, the use of relaxation methods to decrease physiological arousal that frequently accompanies pain, and the development

of other coping strategies to manage emotional distress. In these interventions patients are typically educated about the behavioral, psychological, and biological aspects of pain. They are taught a variety of skills to cope with pain, and they learn to apply these pain management skills in increasingly more difficult situations (e.g., Gil et al., 2000; Keefe & France, 1999; Moore, Von Korff, Cherkin, Saunders, & Lorig, 2000).

In learning to cope with pain, patients are taught relaxation techniques (progressive muscle relaxation, guided imagery, deep breathing) and how to pace their activities; they are taught to schedule pleasant activities, to change the way they think about pain, and to refocus their attention on stimuli other than pain. These methods have been demonstrated to be effective in the treatment of pain associated with rheumatic diseases (e.g., Keefe & France, 1999), migraine headaches (e.g., Blanchard et al., 1997), and irritable bowel syndrome (e.g., Boyce, Gilchrist, Talley, & Rose, 2000; Blanchard, 2001).

similar positive results for coping skills training in the treatment of child depression. This approach has a significant cognitive focus on identifying and modifying depressogenic or maladaptive schemas and attributions and has been found to be effective in the treatment of depression in both children (Stark, Swearer, Kurowski, Sommer, & Bowen, 1996) and adolescents (Lewinsohn, Clarke, Rohde, Hops, & Seeley, 1996; Weisz, Rudolph, Granger, & Sweeney, 1992). In fact, there is now recent evi-

dence to suggest that targeting maladaptive cognitions may help prevent the occurrence of depression in children who are at elevated risk for this disorder (e.g., Gillham, Shatte, & Freres, 2000). Finally, a number of investigators have reported the successful use of cognitive problem-solving skills training in the treatment of oppositional and aggressive behavior in children (e.g., Durlak, Fuhrman, & Lampman, 1991; Kazdin & Weisz, 1998).

## SUMMARY AND CONCLUSIONS

Behavioral approaches to the treatment of psychological disorders grew out of learning theory. Whereas Pavlov and Watson emphasized classical conditioning procedures, in which stimuli evoke responses, Skinner focused on operant

conditioning and the consequences of behavior. While the specifics of the theories may have differed, they all emphasized the examination of overt, observable behavior rather than underlying conflicts and motivation.

Behavior therapists assume that the same principles of learning apply to both normal and abnormal behavior. Consequently, the methods developed to change behaviors are based explicitly on laws of learning. Behavioral procedures have been used in the treatment of fears and phobias (systematic desensitization, exposure-based treatments like implosive therapy), and obsessive-compulsive disorders and eating disorders (exposure plus response prevention). Behavior therapy has also been used to train patients in social skills and assertiveness, and contingency management techniques have been utilized in parent training and token economy programs. Finally, aversion conditioning procedures have been developed to eliminate problematic behaviors like smoking and engaging in self-injurious behaviors.

The strong focus of behavior therapy on overt, observable behavior was challenged by theorists such as Bandura, Ellis, and Beck, who wrote persuasively about the important role played by cog-

nitions in affecting behavior. These theorists paved the way for the development of both cognitive and cognitive-behavioral therapeutic procedures. Today, cognitive therapy enjoys strong empirical support in the treatment of a wide range of psychological disorders in both children and adults, including depression, anxiety, and eating disorders; it is also now used increasingly to help clients deal more effectively with physical pain.

Cognitive-behavior therapy represents an excellent example of the interplay of science and practice. As more investigations assess the effectiveness of cognitive and cognitive-behavior therapy in the treatment of particular psychological disorders, specific aspects of the treatment are refined on the basis of the results of the studies. The refined treatment protocol is then tested, and if necessary, further changes are made. Because of this iterative process, there are now a number of empirically supported versions of cognitive therapy for the treatment of specific disorders.

## KEY TERMS AND NAMES

Aversive conditioning  
Albert Bandura  
Behavior therapy  
Cognitive therapy  
Contingency contracting  
Albert Ellis  
Exposure treatments  
Implosive therapy  
Modeling

Ivan Pavlov  
Rational-emotive therapy  
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Response prevention  
Shaping  
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Systematic desensitization  
Token economy programs  
Joseph Wolpe

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