

## BEHAVIOR MODIFICATION

Behavior modification is the field of study that focuses on using principles of learning and cognition to understand and change people's behavior (Sarafino, 2001). Although not all experts in this field would include cognitive processes in the definition (see Lee, 1992; Sweet & Loizeaux, 1991; Wolpe, 1993), these processes have been widely adopted and applied by behavior modification professionals since the early 1970s (Dobson, 1988; Kazdin, 1978; Mahoney, 1993; Williams, Watts, MacLeod, & Mathews, 1988).

### Defining Characteristics of Behavior Modification

The field of behavior modification has several characteristics that make its approach unique (Kazdin, 1978; Wixted, Bellack, & Hersen, 1990). First, professionals in this field focus on people's *behavior*, which can be *overt*, such as motor or verbal acts, or *covert*, such as feelings, thoughts, or physiological changes. As a result, their approach typically involves (1) defining people's current status and progress in terms of behavior rather than traits or other broad features, (2) measuring the behavior in some way, and (3) whenever possible, assessing covert behaviors, such as fear, in terms of overt actions. Efforts to improve behavior can be directed at a *behavioral deficit*—that is, the behavior occurs with insufficient frequency, strength, or quality—or a *behavioral excess*—that is, it occurs too frequently or strongly. The behavior to be changed is called the *target behavior*.

Second, although behavior modification professionals recognize that injury and heredity can limit the abilities of an individual, they assume that human behavior is, for the most part, *learned* and influenced by the environment. The most basic types of learning are *respondent (classical) conditioning*—in which a stimulus gains the ability to elicit a particular response by being paired with an unconditioned stimulus that already elicits that response—and *operant conditioning*—in which behavior is changed by its consequences. The methods applied in behavior modification generally involve altering the *antecedents* and *consequences* of the target behavior.

Third, behavior modification has a strong scientific orientation. As a result, there is a major focus on carefully gathering empirical data, analyzing and interpreting the data, and specifying the precise methods used to gather and analyze the data. The field is also quite pragmatic, emphasizing the need to find and use techniques that work, as indicated by carefully conducted research. Fourth, behavior modification techniques for changing behavior often have clients or subjects become active participants, such as by performing “homework” and “self-management” activities, in the process of modifying their behavior.

### History of Behavior Modification

Behavior modification developed from the perspective called *behaviorism*, which emerged with the work of John B. Watson (1913, 1930) and B. F. Skinner (1938, 1953). This perspective emphasizes the study of observable and measurable behavior and proposes that nearly all behavior is the product of learning, particularly operant and respondent conditioning. Three lines of research laid the foundation for behaviorism. Ivan Pavlov (1927) demonstrated the process of respondent conditioning. John Watson and Rosalie Rayner (1920) showed that an infant, “Little Albert,” learned to fear a white rat through respondent conditioning. And Edward Thorndike (1898, 1931) studied how “satisfying” and “annoying” consequences—which we now call *reinforcement* and *punishment*—affect learning. Other studies formed the basis for applying the ideas of behaviorism by showing that conditioning techniques could effectively reduce fears (Jones, 1924) and improve problem behaviors of psychiatric patients (Ayllon & Michael, 1959; Lindsley, 1956). The field of behavior modification now includes the areas of the *experimental analysis of behavior*, which examines basic theoretical processes in learning, *applied behavior analysis*, which emphasizes application to socially important problems in various settings, and *behavior therapy*, which focuses on application in psychotherapy settings.

### Application and Techniques of Behavior Modification

Behavior modification techniques have been applied successfully in a wide variety of settings and with many types of behaviors and populations (Sarafino, 2001). They have been used to improve general parenting skills, help parents correct children's problem behaviors, enhance instructional methods in schools, improve classroom conduct, train developmentally disabled children in self-help skills, reduce substance abuse, reduce depression and anxiety, promote people's health and prevent illness, and improve worker productivity and safety.

The techniques used in modifying behavior are quite varied. Operant techniques include some that deal with the consequences of behavior. In *reinforcement*, consequences strengthen the target behavior. *Positive reinforcement* involves introducing a desirable event after the target behavior, and *negative reinforcement* involves removing or reducing an aversive circumstance if the target behavior occurs. *Extinction* is a procedure whereby eliminating the reinforcers of a target behavior weakens that behavior. When *punishment* is used as a consequence, it suppresses the target behavior. Operant techniques also address the antecedents of the target behavior. For instance, *prompting* involves using a stimulus to remind individuals to perform a behavior they know how to do or help them perform a behavior they do not do well.

Other operant methods concentrate on the behavior itself. *Shaping* improves a target behavior by requiring better and better performance to receive reinforcement, and *chaining* is used to develop complex motor behaviors by organizing simple responses into a sequence.

Respondent techniques are usually applied to reduce conditioned emotional responses, such as fear or anger. One technique is *extinction*, in which a conditioned response is weakened by repeatedly presenting the conditioned stimulus without the unconditioned stimulus. Another method is *systematic desensitization*, whereby a conditioned emotional response is reduced by having the person experience increasingly strong conditioned stimuli while maintaining a relaxation response. The conditioned stimuli are arranged in a hierarchy from a very weak stimulus to a very intense one.

Other behavior modification techniques include *modeling*, a vicarious process in which individuals learn a behavior by watching someone else perform it; biofeedback; and various cognitive methods, such as relaxation training, thought-stopping, and covert sensitization. *Biofeedback* is a technique that teaches people to regulate physiological functioning by presenting moment-by-moment information about the status of the body system. The form of relaxation that is most commonly applied in behavior modification is *progressive muscle relaxation*, which has the person alternately tense and relax separate muscle groups. Once the relaxation response is mastered, the procedure can be used by itself or as part of systematic desensitization. *Thought stopping* is a technique in which individuals interrupt distressing thoughts by saying "Stop" emphatically, either aloud or covertly. *Covert sensitization* is a method that is used to teach a person to dislike a liked event, such as drinking alcohol, by pairing it repeatedly with an aversive event in an imagined situation.

Applying behavior modification is a creative enterprise that organizes techniques into programs that are tailored to meet the needs of specific clients in particular circumstances.

## REFERENCES

- Ayllon, T., & Michael, J. (1959). The psychiatric nurse as a behavioral engineer. *Journal of the Experimental Analysis of Behavior*, 2, 323–334.
- Dobson, K. S. (Ed.) (1988). *Handbook of cognitive-behavioral therapies*. New York: Guilford Press.
- Jones, M. C. (1924). The elimination of children's fears. *Journal of Experimental Psychology*, 7, 382–390.
- Kazdin, A. E. (1978). *History of behavior modification: Experimental foundations of contemporary research*. Baltimore: University Park Press.
- Lee, C. (1992). On cognitive theories and causation in human behavior. *Journal of Behavior Therapy and Experimental Psychiatry*, 23, 257–268.
- Lindsley, O. R. (1956). Operant conditioning methods applied to research in chronic schizophrenia. *Psychiatric Research Reports*, 5, 118–139.
- Mahoney, M. J. (1993). Introduction to special section: Theoretical developments in the cognitive psychotherapies. *Journal of Consulting and Clinical Psychology*, 61, 187–193.
- Pavlov, I. P. (1927). *Conditioned reflexes*. (G. V. Anrep, Trans.). New York: Oxford University Press.
- Sarafino, E. P. (2001). *Behavior modification: Principles of behavior change* (2nd ed.). Mountain View, CA: Mayfield.
- Skinner, B. F. (1938). *The behavior of organisms*. New York: Appleton-Century-Crofts.
- Skinner, B. F. (1953). *Science and human behavior*. New York: Macmillan.
- Sweet, A. A., & Loizeaux, A. L. (1991). Behavioral and cognitive treatment methods: A critical comparative review. *Journal of Behavior Therapy and Experimental Psychiatry*, 22, 159–185.
- Thorndike, E. L. (1898). Animal intelligence: An experimental study of the associative processes in animals. *Psychological Review Monograph Supplements*, 2, No. 8.
- Thorndike, E. L. (1931). *Human learning*. New York: Century.
- Watson, J. B. (1913). Psychology as the behaviorist views it. *Psychological Review*, 20, 158–177.
- Watson, J. B. (1930). *Behaviorism*. New York: Norton.
- Watson, J. B., & Rayner, R. (1920). Conditioned emotional reactions. *Journal of Experimental Psychology*, 3, 1–14.
- Williams, J. M. G., Watts, F. N., MacLeod, C., & Mathews, A. (1988). *Cognitive psychology and emotional disorders*. New York: John Wiley & Sons.
- Wixted, J. T., Bellack, A. S., & Hersen, M. (1990). Behavior therapy. In A. S. Bellack & M. Hersen (Eds.), *Handbook of comparative treatments for adult disorders*. New York: John Wiley & Sons.
- Wolpe, J. (1993). Commentary: The cognitivist oversell and comments on symposium contributions. *Journal of Behavior Therapy and Experimental Psychiatry*, 24, 141–147.

EDWARD P. SARAFINO  
The College of New Jersey

**See also: Dialectical Behavior Therapy; Rational Emotive Behavior Therapy**