CHAPTER 25

COGNITIVE-BEHAVIORAL INTERVENTIONS

Rick E. Ingram
Philip C. Kendall
Audrey H. Chen

Psychological health represents the core concern of clinical psychological theory, research, and treatment. While efforts aimed at maintaining mental health have received increasing attention, the fundamental emphasis of clinical psychological science remains the restoration of healthy functioning through the treatment of psychological disorders. To treat these disorders, several major schools of psychological theory have spawned literally hundreds of specific therapies. Among the recent and most widely used intervention methods are those based on cognitive and cognitive-behavioral strategies.

The extensive development of cognitive approaches over the last decade is evidenced by the numerous volumes discussing the theoretical foundations, empirical research, and practical applications of these methods (e.g., Beck & Emery, 1985; Dobson, 1988; Ingram, 1986; Kendall, in press; Kendall & Hollon, 1979, 1981; Meichenbaum, 1977). The advent of a number of journals specializing in cognitive clinical theory, research, and interventions further attests to the prominence of this perspective. In a survey reported by D. Smith (1982), for example, clinical and counseling psychologists identified their "school" of thought. Though most were eclectic (approximately 40%), cognitive-behavioral and psychodynamic approaches were second (approximately 10% each). Considering the relative recency of cognitive-behavioral approaches, there appear to be a great number of professionals who have integrated these approaches into their practice. Indeed, as at least some practitioners accept cognitive-behavioral therapy as a form of eclecticism, many of the 40% who self-defined as eclectic also may make use of cognitive-behavioral procedures.

Given the prominence of cognitively oriented therapy approaches, the purpose of this chapter is to provide an overview of the cognitive/cognitive-behavioral treatment paradigm. In particular, we first discuss the definitions, assumptions, and features that both characterize the cognitive-behavioral approach and that differentiate it from other approaches. To place these features and assumptions into a proper context, we also briefly discuss the historical foundations of these current interventions. Finally, to illustrate the fundamen-
tal elements of cognitive-behavioral treatment, we provide some examples of specific cognitive-behavioral therapies.

It is important to note that the emphasis of this chapter is on cognitive-behavioral treatments as they apply to issues of psychological health. However, the essential assumptions and features of the approach are also relevant to physical health questions. In this vein, Bradley and Kay (1985) have provided an excellent discussion of the expanding role of cognition in health psychology.

HISTORICAL PRECIS OF COGNITIVE-BEHAVIORAL APPROACHES TO TREATMENT

To fully appreciate the present assumptions and characteristics of cognitive-behavioral treatment, it is useful to consider the origins of this approach. While many clinical scientist-practitioners may prefer to view themselves as experimental psychologists who specialize in clinical issues, the evolution of clinical psychology does not always parallel the evolution of experimental psychology. For instance, while behaviorism was taking root in experimental psychology, clinical psychology was shifting from a reliance on Freudian concepts to an emphasis on Humanistic/Rogerian concepts. Clinical behaviorism was not far behind, however, and was soon established as the dominant paradigm in scientific clinical psychology. Buoyed by empirical literature interpreted as demonstrating the effectiveness of behaviorist interventions, clinical behaviorism enjoyed much success. Numerous researchers, for example, sought to delineate the stimulus-response links that would explain behavior and thus allow for the prediction and modification of abnormal behavior. Other researchers tested the effectiveness of learning principles developed in experimental laboratories in analog treatment studies of behavior disorders, most notably conditioned anxious behavior. Journals specializing in behavioral therapy and applied behavior analysis also were initiated and professional associations were developed to advance behavior therapy and applied behavior analysis.

While the behavioral paradigm was similarly influential in experimental psychology, researchers started to question the adequacy of strict behavioral concepts to explain complex behavior. Accordingly, experimental psychologists began to return to an earlier interest in cognitive variables, this time from a more scientific perspective. Cognitive constructs, models, and methodologies soon boomed in experimental and developmental psychology, while social psychology and clinical psychology eventually followed suit. However, the acknowledgment and incorporation of cognition in behaviorally dominated clinical psychology was a gradual shift rather than an abrupt change.

There seem to be three reasonably distinct stages in this conceptual shift to cognitive concepts. First, given the belief of some learning theorists that the study of cognition was not scientific, initial shifts to a cognitive perspective were of necessity quite subtle. For instance, in developing the tenets of social learning theory, which emphasized vicarious learning processes, Bandura (1969) and Mischel (1973) suggested the importance of cognitive variables, but placed these variables within the context of “covert behavior.” It was this context that allowed them access to “legitimate” scientific status. These social learning approaches thus represented the early antecedents of contemporary cognitive therapy.

Second, the gradual inclusion of cognitive variables into the realm of scientific respectability was followed primarily by a group of clinical researchers who were interested in the development of effective treatment procedures. As such, they focused considerable attention on explicitly cognitive targets and developed both cognitive and behavioral procedures designed to affect these targets. The emphasis at this stage was on effective treatment development rather than on refinement and development of cognitive conceptual frameworks. Nevertheless, these researchers moved away from the notion of cognitions as simply internal behaviors and maintained that the cognitive system operated according to sets of principles that could be substantially different from traditional learning principles. Moreover, such cognitions were viewed as having legitimate causal implications in dysfunctional behavior. Thus, emphasis was generally on how individuals cognitively structure their experience and, in particular, on modifying specific dysfunctional cognitions. Employing the term cognitive-behavioral for probably the first time, this group included works by Kendall and Hollon (1979, 1981), Mahoney (1974), Lazarus (1981), and Meichenbaum (1977). Additionally, Beck (1976; Beck, Rush, Shaw, & Emery, 1979), and Ellis (1963) were central among this group, although they came from traditions that were not originally behaviorist.

The third stage is represented by contemporary
work in cognitive-behavioral psychology. Activities here are too diverse to identify a particular focus. However, one can distinguish several general themes. One such theme in contemporary cognitive-behavioral theory and research is an increased emphasis on the conceptual development of models of cognition and the role of cognition in psychological dysfunction. Given that some previous cognitive constructs in cognitive-behavioral psychology developed independently of ongoing efforts in basic cognitive psychology (Winfrey & Goldfried, 1986), much current conceptual work has focused on adaptation of the methods, data, and constructs from experimental cognitive psychology to cognitive-behavioral clinical psychology (e.g., Ingram, 1986; Merluzzi, Glass, & Genest, 1981).

An additional theme concerns the conceptual understanding and modification of emotion in cognitive-behavioral therapy paradigms (e.g., Greenberg & Safran, 1987; Guidano & Liotti, 1983; Kendall, 1985). An emphasis on elucidating the disordered processes that are modified by cognitive-behavioral interventions, and thus responsible for therapeutic improvement, is also a current focus of contemporary theory and research efforts (Hollon, Evans, & DeRubeis, 1987; Simons, Garfield, & Murphy, 1984). Relatedly, investigators continue to empirically examine the effectiveness of cognitive-behavioral approaches, but with an increased precision that reflects the methodological advances in the field (see Hollon & Beck, 1986). Finally, at both the conceptual and empirical levels, efforts also are underway to broadly integrate cognitive-behavioral interventions with other diverse psychotherapeutic approaches to human change (Goldfried, 1980, 1982; Wolfe & Goldfried, 1988; see also Haaga, 1986). Interventions that integrate cognitive and behavioral approaches may be a part of, or the stimulus for, this larger trend.

DESCRIPTIVE FEATURES OF COGNITIVE-BEHAVIORAL TREATMENT

Delineation of the descriptive features of cognitive interventions is important for two reasons. First, examination of these features allows for distinguishing between what constitutes cognitive-behavioral treatment from what does not. Second, once the domain of cognitive-behavioral treatment is understood, the key commonalities and distinctions between various cognitive-behavioral approaches can be identified. In considering what constitutes cognitive-behavioral therapy, however, it is important to guard against extending uniformity myths (Kiesler, 1966), which would imply that all cognitive-behavioral treatments are essentially the same in both procedures and underlying theoretical conceptualizations of psychological disturbance; however, this is not the case (Hollon & Beck, 1986; Kendall & Bemis, 1983). While there are a set of features and assumptions that, by definition, characterize cognitive-behavioral interventions, it is important to keep in mind that these various interventions can be distinguished by different clinical procedures, by demonstrated treatment effectiveness, and occasionally by specific theoretical assumptions. For present purposes, we refer to "the cognitive-behavioral approach" as a group of cognitive-behavioral therapies that share a core set of assumptions and characteristics. We do not intend to suggest, however, that this approach represents a consolidated, uniform, or single approach to treatment; there are meaningful differences among specific cognitive-behavioral interventions.

Definitions

As a core definition, cognitive-behavioral therapy emphasizes both theoretical and procedural elements. Specifically, cognitive-behavioral therapy is defined as those sets of therapeutic procedures that (a) embody theoretical conceptualizations of change that place primary importance on cognitive processes and (b) procedurally target at least some therapeutic maneuvers, especially at altering aspects of cognition.

Such a definition has several functions. For example, it suggests certain implications for conceptualizations of human change processes, and consequently, for translating these theoretical ideas into further therapeutic development, modifications, and refinements. Additionally, such a definition provides a basis for discriminating between cognitive-behavioral and non-cognitive-behavioral approaches. Approaches solely concerned with the modification of behavior, for instance, would not qualify as cognitive-behavioral even though they may unwittingly modify cognitive processes. Hollon and Beck (1986) argued in this regard that systematic desensitization would not be considered a cognitive-behavioral approach as behavioral rather than cognitive change is the
therapeutic goal as well as the presumed causal mechanism. Similarly, as Dobson and Block (1988) noted, approaches employing operant techniques with the sole purpose of modifying behavior, even though they may alter some aspect of cognitive functioning, would not be cognitive-behavioral any more than would approaches emphasizing childhood traumas and cathartic expression.

A cognitive-behavioral model of psychopathology and psychotherapy places major emphasis on (a) both the learning process and the influence of the contingencies and models in the environment while (b) underscores the centrality of mediating/information-processing factors in both the development and remediation of disorders (Kendall, 1985). The model does not concern itself with efforts to uncover unconscious early trauma, nor does it belabor biological, neurological, and genetic aspects of pathology. Rather, these latter factors are accepted as influential in certain disorders but of less concern in many others. Similarly, affective processes, family systems, and social context are not given primary emphasis, but these factors are recognized and integrated. Cognitive-behavioral analyses of psychological disorders involve considerations of numerous features of the client’s internal and external environment and represent an integrationist perspective.

A further differentiation can be made regarding the type of pathology generally seen as appropriate for cognitive intervention: cognitive deficits versus cognitive distortion. Deficits refer to an absence of thinking (lacking cognitive activity where it would be beneficial), whereas distortions refer to dysfunctional thinking processes (Kendall, 1985). This distinction highlights the differences between the forerunners of adult cognitive-behavioral therapy that focused on modifying dysfunctional thinking in adults (e.g., Beck, Ellis) and early cognitive-behavioral training with children that dealt mostly with teaching to remediate deficiencies in thinking (e.g., self-instructions; Kendall, 1977; Meichenbaum & Goodman, 1971). The distinction can be furthered when types of psychopathology are considered. Depression and anxiety are more related to cognitive distortions, whereas other disorders such as hypomania may reflect cognitive deficiencies. Some data support this distinction in children where depressed and/or socially isolated children have problems that resemble distorted thinking (misperceiving demands of the environment; excessive self-criticism) while hyperactive/impulsive children have problems related to an absence of thinking (Kendall & Morrison, 1984; Kendall, Stark, & Adams, in press). Thus, the deficiency/distortion distinction appears to offer promise as a way of conceptualizing different types of cognitive disorders.

Assumptions

Cognitive-behavioral procedures also can be distinguished by their underlying assumptions. While there are no universally agreed upon assumptions, the following list based on Dobson (1988), Kendall and Bemis (1983), Kendall and Hollon (1979), and Mahoney and Arnkoff (1978) seems reasonable according to current theory and data.

1. Individuals respond to cognitive representations of environmental events rather than to the events per se.
2. Learning is cognitively mediated.
3. Cognition mediates emotional and behavioral dysfunction. It should be noted that this assumption does not imply a linear focus where cognition is primary, but rather that cognitive variables are interrelated with affective and behavioral variables and thus affects these variables (and vice versa).
4. At least some forms of cognition can be monitored.
5. At least some forms of cognition can be altered.
6. As a corollary to numbers 3, 4, and 5, altering cognition can change dysfunctional patterns of emotion and behavior.
7. Both cognitive and behavioral therapeutic change methods are desirable and can be integrated.

It would be premature to say that we know what it takes “cognitively” to attain and maintain satisfactory adjustment. Differences in definitions of adjustment obviously exist, yet there is sufficient information to propose that (a) realistic, rational, and flexible cognitive styles are desirable over unrealistic, irrational, and rigid styles (cf. Arnkoff & Glass, 1982); and (b) having access to and engaging in the cognitive processes necessary for problem resolution is superior to deficient processing (cf. Spivack & Shure, 1974). Thus, the cognitive-behavioral model does not offer a unitary explanation as much as a series of guideposts for
adjustment. For example, the model does not prescribe that all people think positive thoughts or that they avoid all negative thinking. The model does hold, however, that positive and negative thinking and the relationships between them (e.g., sequence and other topological characteristics) are important (Kendall, Howard, & Hays, 1989).

Features

Although we have offered potential defining features of cognitive-behavioral therapy (i.e., the theoretical importance of cognitive causal factors and methods intended specifically to alter these cognitive variables), interventions falling within this class of therapeutic procedures may vary on a number of different dimensions. It is therefore often difficult to distinguish what does or does not constitute a cognitive-behavioral therapy. In clarifying the nature of cognitive-behavioral therapy, a construct borrowed from experimental cognitive psychology, cognitive prototypes, can be quite helpful. According to Rosch (1973, 1975), prototypes represent abstractions of superordinate natural categories. The degree of "relatedness" of category members depends on the number of features these members share with the category. Hence, if the natural category is "bird," a robin is seen as more typical than a penguin because it shares more features with the prototypical bird, although both qualify as birds. Such prototype constructs have previously been employed in psychopathology research to facilitate diagnosis (see Horowitz, French, Lapid, & Weckler, 1982; Horowitz, Weckler, & Doren, 1983; Nasby & Kihlstrom, 1986).

In determining therapy class membership, as in all cases of natural categories, it is helpful to examine the number of features that the particular case has in common with the prototype. The prototype construct suggests that it is not only possible to identify those interventions that are cognitive therapy, but also to distinguish among varying degrees of cognitive-behavioral. While some therapies may represent prototypical instances of the cognitive-behavioral approach, others may approximate this to a much lesser degree and be considered only somewhat cognitive-behavioral. Although we suggest that any therapeutic set of procedures possessing the two core assumptions that we earlier defined can be considered cognitive-behavioral (i.e., conceptualizations of change emphasizing cognition, as well as treatments aimed at altering cognitions), the greater the number of other features present, the more cognitive-behavioral a given therapy can be considered.

In line with the assumptions underlying cognitive-behavioral therapy, there is no universally agreed upon set of defining features. We think the following list, however, is both reasonably accurate and comprehensive. As we have noted before, the first two features represent the core characteristics of any therapy considered to be cognitive-behavioral.

1. Cognitive variables are assumed to be important causal mechanisms. This does not imply that there are not other meaningful causal mechanisms as well, but that cognitive variables are important in the constellation of processes that elicit the onset and course of a disorder.

2. Following from the assumption that cognitive variables are presumed to be causal agents, at least some of the methods and techniques of the intervention are aimed specifically at cognitive targets.

3. A functional analysis of the variables maintaining the disorder (including cognitive, behavioral, and affective variables) is undertaken.

4. Cognitive-behavioral approaches employ both cognitive and behavioral therapeutic strategies. Typically, even behavioral tactics are aimed at cognitive objectives, such as in the case of Beck's (Beck et al., 1979) approach to depression, which employs behavioral homework assignments intended to help modify dysfunctional thoughts and beliefs.

5. There is a strong emphasis on empirical verification. This emphasis is manifested in two different domains. The first is in empirical research designed to establish the efficacy of the therapeutic procedures and help determine the processes by which these procedures function. The second is an emphasis within actual therapy on employing objective assessment to examine therapeutic progress. Again turning to treatment for depression, Beck (Beck et al., 1979) recommended a session-by-session client Beck Depression Inventory (BDI), to help objectively assess the range and degree of the client's depressive symptoms.

6. Cognitive-behavioral approaches are typically time limited (not considered long-term therapy in the classic sense) with plans for booster,
maintenance, and related sessions to buttress and improve treatment efforts. For example, cognitive-behavioral programs for childhood/adolescent anxiety disorders last for typically 16 to 20 sessions (e.g., Kendall, Kane, Howard, & Siqueland, 1989) and approximately 20 sessions for adult depression (Beck et al., 1979) is common.

7. Cognitive-behavioral approaches are collaborative enterprises (e.g., collaborative empiricism) where the client and therapist form a working alliance to alleviate dysfunctional thinking and behavior.

8. Cognitive-behavioral therapists are active and make recommendations and suggestions (directive) rather than being passive and nondirective.

9. Cognitive-behavioral approaches are educational in nature. Clients learn about the cognitive-behavioral model of dysfunction, the role of their thinking in the maintenance of dysfunction, and the need to modify dysfunctional cognition and behavior.

**REPRESENTATIVE COGNITIVE-BEHAVIORAL PROCEDURES**

Many specific cognitive-behavioral therapies exist. While it is outside the scope of this chapter to describe all of these specific interventions, we will first discuss several major categories of cognitive-behavioral therapy (summaries and reviews of specific interventions can be found in Dobson, 1988; Hollon & Beck, 1986; and Kendall, 1987), and then describe typical examples of therapies that fall within these categories.

**Categories of Cognitive-Behavioral Interventions**

Dobson and Block (1988) and Mahoney and Arnkoff (1978) described three general classes of cognitive-behavioral interventions that vary according to the general goal of the therapy: coping skills, cognitive restructuring, and problem-solving. Such approaches are not seen as exclusive but rather differ in terms of emphasis.

Coping skills approaches are those that focus on helping individuals develop skills for adapting to stressful circumstances that are beyond their current level of mastery. Meichenbaum’s (1985) *Stress Inoculation Training* (SIT) is a relevant ex-
the first two stages of treatment. While the stressful situation is sometimes in vivo, it also may be imaginal.

A study by Kendall et al. (1979) illustrates a stress inoculation approach for health-related problems. Kendall et al. compared the effectiveness of a cognitive-behavioral (stress inoculation-like) treatment and a patient education treatment in reducing the stress of patients undergoing cardiac catheterization. To control the effects of the increased attention given to treated patients, an attention-placebo control group was employed. A final control group completed the assessment measures but received only the typical, current hospital experience (i.e., current conditions control). The results of the study indicated that the patient's self-reported anxiety was significantly lower after the intervention for the cognitive-behavioral, patient education, and attention-placebo groups than for the current-hospital conditions control. However, self-reported anxiety levels during the catheterization were significantly lower only for the cognitive-behavioral and patient-education groups. Physicians and technicians independently rated the patients' behavior during catheterization, and these ratings indicated that the patients receiving cognitive-behavioral treatments were best adjusted (e.g., least tense, least anxious, most comfortable). The patient education group was rated as better adjusted than the two control groups, but significantly less well adjusted than the cognitive-behavioral group.

Cognitive restructuring methods focus on increasing the individual's accurate appraisal of information by altering some aspect of his or her cognitive structures, or belief system. Here the emphasis is clearly on the modification of distorted cognitive processing. Examples of cognitive restructuring methods include Ellis' Rational Emotive Therapy (RET) and Beck's (Beck et al., 1979) cognitive therapy approach. RET will be discussed first.

RET is one of the earliest approaches to psychotherapy classified as cognitive-behavioral, having been formulated by Ellis (see Ellis, 1963). Like Beck, Ellis had been extensively trained in the psychoanalytic tradition. However, following this training and some experience in psychoanalytic treatment, Ellis questioned many of the therapeutic tenets of psychoanalysis such as the extensive length of treatment thought to be required for positive effects. He began experimenting with more active and directive therapy methods, which gradually evolved into his theory of psychological dysfunction and treatment. Although developed in the 1950s, RET remained a frequently employed approach throughout the 1970s and 1980s.

RET is based on an A-B-C (and sometimes D and E) paradigm. The A, activating experience, is the event to which the individual is exposed. B stands for belief, or the series of thoughts and self-statements the individual has in response to the activating event. These cognitions are part of a core set of irrational beliefs that dysfunctional individuals possess. While many cognitive clinical theorists suggest that specific dysfunctional or irrational beliefs influence maladaptive emotional responses to certain events, Ellis is unique in proposing a standard set of negative beliefs that specifies that the individual must do, think, feel, or have something in order to be happy (e.g., "I must be successful at everything I do to be happy"). C represents the consequences, or behaviors and emotions that result from the belief just experienced.

The ABC paradigm serves as a convenient mnemonic device for clients and thus can help to facilitate an understanding of the link between cognition and affect. In therapy, Ellis seeks to add D and E to the system. D (disputation) stands for the debating, defining, and discriminating that occur between the therapist and client surrounding the irrational belief. Finally, E represents the desired effect that occurs after confronting the irrational beliefs. The therapist directly confronts and encourages the client to discriminate between self-statements that may be objectively true and those that may be irrational. In order to maximize learning and minimize the client's chances to revert to his or her irrational thoughts, RET often includes homework assignments, which may include cognitive exercises, in vivo sensitization, and rational- emotive imagery. Imagery may be used to aid client in holding the worst possible scenario he or she fears. This allows the client an opportunity to practice modifying the negative self-thoughts and verbalizations and replace them with more objective and rational thoughts.

Unfortunately, beyond stressing the need to confront clients and debate their irrational beliefs, Ellis offers few specific therapeutic procedures for helping clients to decrease irrational thinking. From the practicing therapist's standpoint, this lack of specificity makes it difficult to employ procedures that accurately reflect the theoretical rationale underlying RET. Additionally,
such a lack of specificity makes it difficult for researchers to adequately test the efficacy of the approach, a difficulty that may account in part for the inconsistent empirical data on RET’s effectiveness (T. Smith, 1982; see also Haaga & Davison, 1989).

A cognitive restructuring approach that does offer a specific set of procedures is Beck’s cognitive therapy. Based somewhat loosely on schema constructs developed in experimental cognitive psychology, the methods Beck describes are intended to alter the cognitive structures that precipitate maladaptive information processing and either initiate or exacerbate psychological dysfunction. The approach has been found to have beneficial effects, yet there is some debate concerning whether it works in the manner proposed by Beck (see Hollon et al., 1987; Ingram & Hollon, 1986; Simons, Garfield, & Murphrey, 1984).

Beck’s approach is considered a metacognitive approach, and as such it aims to help individuals test the validity of their belief systems rather than assuming that they are necessarily accurate. This approach presents somewhat of a paradox for clients in that it facilitates a return to normal thinking and functioning by virtue of learning an “unusual” mode of thinking (Evans & Hollon, 1988). Beck suggests several specific cognitive and behavioral procedures to aid this metacognitive shift. As with virtually all cognitive therapy, an early step in the process is to provide a cognitive rationale for the treatment so that clients understand the importance of thinking processes in their emotional and behavioral dysfunction. Behavioral and cognitive self-monitoring methods teach the client to carefully keep track of events, thoughts, and feelings in situations that cause them distress. Cognitive strategies are aimed at helping the client to identify and then alter problematic and presumably inaccurate beliefs. Thus, upon identifying dysfunctional thoughts and beliefs, for example, the client might be taught a series of questions: (a) What is the evidence for the belief? (b) Are there more accurate alternatives to this belief (are there other ways to explain things)? (c) What is the actual meaning of the belief? These questions are thus intended to test the hypothesis that the belief is valid and, if not, to generate more accurate beliefs.

Behavioral homework assignments also are employed and represent a powerful therapeutic tool. These assignments, developed in collaboration by both the therapist and client, are designed to challenge beliefs through direct experience. Thus, a mother who believes that she is a bad mother because she occasionally wishes that she did not have kids may have the assignment to ask several women who she thinks are good mothers if they ever have similar thoughts. Even though Beck’s approach is typically referred to as a cognitive therapy, these behavioral assignments attest to the fact that the approach is indeed a cognitive-behavioral system.

Although Beck’s cognitive therapy was originally developed for the treatment of depression, it has been recently extended into several different clinical domains. Beck and Emery (1985), for example, have described cognitive therapy applications to anxiety disorders, while Clark (1986) has suggested the utility of cognitive therapy for panic-based disorders. Most recently, the utility of cognitive therapy approaches for marital therapy have been suggested and there also has been discussion of cognitive approaches for personality disorders. While the excursion of cognitive therapy into these different areas is both logically and intuitively appealing, empirical data are needed before conclusions can be drawn with regard to the effectiveness. Caution is particularly apt in the case of personality disorders, because these problems are widely acknowledged as resistant to treatment.

The final category of cognitive-behavioral approaches consists of problem-solving approaches. As the name implies, the purpose of this group of cognitive-behavioral therapies is to help teach clients effective methods for solving the problems of daily living. Contemporary problem-solving therapies have their roots in the era during the late 1960s and early 1970s when social competence and the social context of human problems were recognized as important issues in developing clinical interventions and prevention strategies (D’Zurilla & Goldfried, 1971; D’Zurilla, 1986; Spivak & Shure, 1974; also see Heppner in this volume).

D’Zurilla and Goldfried’s (1971) problem-solving therapy represents a prime example of this type of approach (see also D’Zurilla, 1986). They proposed that to facilitate generalized behavior change, problem-solving therapy should serve as a form of therapy in which clients are trained to solve problems and become their own therapists. By training individuals to cope more effectively
with problematic situations, they would be able to deal independently and more effectively with situations as they arose in daily living. Further, by increasing the number of effective coping responses that the individual would be capable of making in a problem situation, D'Zurilla and Goldfried (1971) hypothesized that the likelihood of being able to select the most effective response from these number of responses also would be increased.

As outlined by D'Zurilla (1986), problem-solving therapy is conceptualized as occurring in five stages: (a) general orientation, (b) problem definition and formulation, (c) generation of alternatives, (d) decision-making, and (e) verification. There is no specification that the precise order of these steps must be followed for problem-solving to be effective; an individual usually moves back and forth from one stage to another. Therapeutically, however, these steps may be viewed as a way of organizing therapeutic procedures. In the first phase of problem-solving therapy, general orientation, the client's beliefs, values, and appraisals of problematic situations are examined. Therapy at this stage focuses on helping clients to change their individual cognitive sets so that they can learn to assume that problems are a part of everyday life. The client also is taught to identify problem situations as soon as they occur and to inhibit their first impulses in favor of using problem-solving behaviors instead. Problem definition and formulation, the second stage, consists of teaching the client to operationally define and accurately classify the various aspects of the problem situation. The third stage in problem-solving involves the generation of alternative solutions, the core of which lies in brainstorming. Decision-making, the next step, involves choosing which of the different alternatives is best, and verification consists of evaluating the effectiveness of the solution. Thus, problem-solving therapy emphasizes not only teaching clients basic problem-solving skills, but also guides the client in applying these skills to problematic situations.

Problem-solving approaches also have been applied to childhood disorders (e.g., Kendall & Braswell, 1985; Weissberg, Cowen, Lotyczewski, & Gesten, 1983). Cognitive-behavioral therapy for children consists of a class of interventions including self-instructional and social problem-solving training, coping, modeling, affective education, role-playing, and the management of behavioral contingencies. One version of cognitive-behavioral therapy is for the treatment of children with deficits in self-control (e.g., hyperactive, impulsive children). Following several preliminary studies where positive outcomes were found (see Braswell & Kendall, 1987), Kendall and Braswell (1982) conducted a components analysis of a problem-solving treatment for children. As in the previous studies, 8- to 12-year-old subjects were selected via teacher referral for the exhibition of behavior that interfered with academic and social performance in the classroom. The cognitive-behavioral condition received self-instructional training via coping modeling and behavioral contingencies, whereas the behavioral treatment condition involved only task-modeling and contingencies. Dependent measures included teacher rating, task performance, and behavioral observations of off-task behavior in the classroom. The cognitive-behavioral group showed significant improvement and maintenance of improvement on a teacher rating form, while the behavioral and control groups did not. On the teacher ratings of hyperactivity, both the cognitive-behavioral and behavioral groups showed significant change at posttest and maintenance of change at follow-up. Only the subjects in the cognitive-behavioral group, however, showed improvement on a measure of self-concept.

The classroom observations yielded a high degree of variability, but the cognitive-behavioral group displayed relative improvement in the categories of off-task verbal and physical behaviors. Parent ratings of behavior in the home environment did not reveal significant treatment effects. Thus, treatment generalization to the classroom did occur, as indicated by teacher ratings and classroom observations, but generalization to the home did not.

More recently, the cognitive-behavioral problem-solving approach has been applied successfully with conduct-disordered youth. Kazdin and colleagues (Kazdin, Esvedt-Dawson, French, & Chis, 1987) reported improvements on ratings of externalizing problems, while Kendall and associates (Kendall, Robe, McLear, Epps, & Ronan, in press) found significant gains on prosocial behavior. These studies are illustrative of the types of cognitive-behavioral programs used with some children—a focus on overcoming cognitive deficiencies. Alternatively, treatment for childhood disorders such as depression and anxiety (see Ken-
dall, in press) are geared toward correction of distorted information-processing.

Efficacy of Cognitive-Behavioral Treatments

Perhaps most noteworthy in examining issues regarding cognitive-behavioral therapy is the increasing appearance of empirical data evaluating the efficacy of various cognitive-behavioral approaches. Such data have been reported in a myriad of investigations, and a variety of summaries, both meta-analytic and qualitative, are currently available (e.g., Dobson, 1988; Hollon & Beck, 1986; Kendall, 1987, in press; Kendall & Bemis, 1983; Mahoney & Arnkoff, 1978; Steinbrueck, Maxwell, & Howard, 1983). In examining the results of these summaries, several factors preclude simple statements regarding the effectiveness of cognitive interventions. For example, the diversity of distinct cognitive-behavioral approaches prevents a simple answer to the question of effectiveness. Also, significant variations in definitions and duration of outcome criteria, disparate skill levels of the therapists used in studies, the different disorders treated, and variations in methodological adequacy all preclude clear and universal conclusions. Nevertheless, a review of the empirical data suggest that cognitive and cognitive-behavioral procedures appear to have “generally established their efficacy in a variety of disorders” (Hollon & Beck, 1986, p. 476). While not uniform, the empirical data are certainly quite promising.

Although several specific therapies have received support from empirical studies, Beck’s cognitive therapy (Beck et al., 1979) for depression has been widely studied and found to be effective in a clear majority of studies. An early study providing support for Beck’s treatment model was reported by Rush, Beck, Kovacs, & Hollon (1977). The authors found that depressed outpatients treated with cognitive therapy improved significantly more than outpatients treated with a standard anti-depressant medication regimen. While this study was not without some criticism, it not only precipitated a series of controlled outcome trials that compared the effectiveness of cognitive therapy and pharmacological treatments on both immediate outcome and relapse prevention, but also facilitated the development of a large multi-center NIMH collaborative project on the psychological treatment of depression. In each case, cognitive therapy has been, at minimum, as effective as pharmacological treatment (Beck, 1986). The empirical picture for cognitively based therapies in general, and for Beck’s cognitive therapy in particular, is therefore quite positive.

Is Clinical Psychology a Prescriptive or Conceptual Clinical Science?

Having discussed examples of specific cognitive-behavioral treatment approaches, it is important to attend to several empirical considerations regarding the effectiveness of therapy procedures and the information that such empirical data provide us. As we have previously noted, while not uniform, the research data on the efficacy of cognitive-behavioral approaches are encouraging. What are the practical implications of these encouraging data?

To answer this question it is necessary to look at some possible objectives of therapy outcome research. For example, one goal of therapy outcome research might be to determine which methods are effective for treating which clients with which problems (Kiesler, 1966): “Which specific procedures obtain which results with which patients, in what amount of time, and are these differential results equally enduring” (p. 162, Bergin & Lambert, 1978). This proposal suggests that, in principle, eventually it should be possible to empirically catalog effective treatment techniques for specific problems. According to this philosophy, the purpose of research data is to provide potential “recipes” of well-specified strategies/techniques that have been empirically proven to be successful for well-specified problems, thus allowing for the prescription of certain techniques for certain problems. Behavioral and cognitive-behavioral approaches have been seen as offering the greatest promise for achieving this laudable goal. For instance, the emphasis on employing specific techniques or methods in these approaches conforms nicely to the premises underlying this philosophy. In addition, the reliance on rigorous empirical verification of therapeutic efficacy implies a mechanism for eventually being able to reach the goal of empirical cataloging.

It is worthwhile to briefly examine the assumptions behind this prescriptive philosophy. Earlier we suggested that cognitive-behavioral approaches generally have proven their worth in the outcome literature, and it might thus be suggested.
that clinical science is steadily progressing toward a body of knowledge that allows for clear recommendations regarding particular therapeutic methods for specific problems. There are two interrelated problems with this assumption, however. The first has to do with the prescriptiveness of empirical findings, and the second concerns what actually is demonstrated when an approach has been found to be effective for a psychological problem. A prescriptive philosophy assumes something analogous to a medical treatment model. For example, different psychopharmacological doses of a medication prescribed by different practitioners for a disorder represent an identical treatment; the medication will always be the same and the dose always measured in the same way no matter who measures it and in which setting. This analogy obviously does not hold for psychological treatment. Even using the same methods for the same disorder, different therapists will “administer” the treatment quite differently due to a variety of factors such as their particular personal attributes and backgrounds, training backgrounds, and the vicissitudes of client circumstances and behaviors. Moreover, study therapists are supervised and closely follow detailed therapy manuals; this is seldom if ever the case in clinical practice. With few exceptions, it is simply not realistic to assume that a method or technique found effective in experimentally rigorous outcome studies is employed in the same way in actual practice.

It is therefore unlikely that clinical researchers will ever be able to prescribe certain treatments for certain disorders, at least in the manner that the treatments are actually tested. Does this then suggest that empirical research that tests the effectiveness of various treatment strategies is unimportant or not useful? Absolutely not; a strong emphasis on empirical testing is the hallmark of both behavioral and cognitive-behavioral approaches and is unequivocally essential. The problem, however, revolves around whether applied clinical psychology is a conceptual or a prescriptive science. As a conceptual science, empirical research informs therapists about human change principles and how these principles tend to be affected by various classes of therapist behaviors. These data then allow therapists to put this knowledge into practice, not in a prescriptive sense, but in a scientific-conceptual sense. Indeed, therapists can be seen as applied scientists who bring to bear their empirically derived knowledge of basic science (the functioning of various change variables) on particular scientific (client) problems to be solved. Thus, these scientist-practitioners are characterized by a flexibility to apply their basic scientific knowledge in a way that fits best with their personalities and backgrounds, with the clients’ personalities and backgrounds, and with the multitude of problems clients bring to therapy. It follows then that outcome research, which tells us most about scientific change principles, will be the most effective in helping clients. On the other hand, “horse race” studies comparing different methods to see what is the most effective are less valuable unless they can provide meaningful information about the therapist and client processes underlying the changes effected by the different treatments. Ultimately, outcome research that explicitly examines questions of process (once a beneficial outcome has been demonstrated) will be of the greatest use in a conceptual science such as clinical psychology.

**SUMMARY AND CONCLUSIONS**

Cognitive-behavioral treatments are among the most widely employed groups of interventions for improving psychological health. In this chapter we have reviewed the basic definitions, assumptions, and features of this family of approaches and have discussed several prototypic examples of cognitive-behavioral treatment. While acknowledging the encouraging outcome data for several specific cognitive-behavioral strategies, we also have suggested several caveats regarding the interpretation and practical utility of these approaches. Caveats aside, however, it is clear that cognitive-behavioral methods have found their way into the practice of numerous scientists/professionals and, as such, will continue to influence the field of clinical and health psychology for some time to come. While use of these methods is promising, it is clear that much work remains to be done, particularly work examining the process by which cognitive-behavioral methods may impact psychological health, as well as the development of theoretical models describing the role of cognitive-behavioral variables in both healthy and unhealthy functioning. These areas of emphases, along with the activity of numerous cognitive-behavioral researchers, offer considerable promise in providing a more thorough picture of cognitive-behavioral theories and procedures as they pertain to people's psychological health.
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