

Toward a Cognitive-Behavioral Model of Child Psychopathology and a Critique of Related Interventions¹

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A cognitive-behavioral model recognizes the interdependencies of cognitive, affective, social, developmental, and behavioral factors in the etiology and remediation of childhood psychopathology. The model is concerned with the cognitive distortions and deficiencies that surround behavioral events and emphasizes the combination of treatment strategies with the therapist as a remediation organizer. Recommendations are made regarding treatment expectations, the specificity of the cognition-disorder relationship, the quality of the application of the training, and the need for further involvement of the child in the therapeutic curriculum.

The dominant models of child psychopathology have generally paralleled those of adult psychopathology: psychodynamic, humanistic, behavioral. In the recent past, behavioral models and behavioral methods of treatment have been most dominant (Davids, 1975) with diagnoses based on behaviors (e.g., observations, ratings), dimensions of pathology relying on behavior (e.g., internalizing vs. externalizing), and interventions targeting behaviors as both the focus of change and the outcome criteria. Historically, the emphasis on the role of cognition in the development and maintenance of pathological behavior patterns was a reaction to the narrow aspects of the

¹Portions of this paper were adapted from an address given at the Instituto Nacional De Salud Mental "Honorio Delgado-Hideyo Noguchi," Lima, Perú, December 1984. Portions were also presented as part of a colloquium at Rutgers University. I wish to thank Kelly Bemis for her helpful comments on an earlier draft of this paper.

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pristine practice of behavior modification. Methodological behaviorism was never irreparably questioned and the importance of enactive, performance-based treatment was never discarded, but there was a marked effort to let concepts out of the closet and allow the magic of the mind to become a source for study. Examinations of distorted cognitive processing, of the implications of failing to engage in cognitive problem solving, and of the role of attributional and expectational factors in behavioral disorders and the outcomes of cognitive-behavioral interventions have documented that a cognitive look at behavioral interventions has potential. Debate on the evidence continues (e.g., Hobbs, Moguin, Tyroler, & Lahey, 1980; Kendall & Braswell, 1985; Meichenbaum, 1977; Meyers & Craighead, 1984; Urbain & Kendall, 1980).

Presentation of a psychological model of childhood psychopathology must necessarily include a statement of the tenets held by the system and a description of the goals and methods of the model. Since no single model can purport to capture a truly complete understanding, certain caveats must also be introduced.

A cognitive-behavioral system can be said to hold a number of basic principles that can be parsimoniously captured as follows. These points are based on Mahoney (1977), Mahoney and Arnkoff (1978), and Kendall and Hollon (1979), and are adopted from Kendall and Bemis (1983).

1. The human organism responds primarily to cognitive representations of and experiences in its environment rather than to the environments and experiences per se.
2. Most human learning is cognitively mediated.
3. Thoughts, feelings, and behaviors are causally interrelated.
4. Cognitive events, processes, products, and structures (e.g., self-talk, expectancies, attributions, schemata) are important in understanding and predicting psychopathological behavior and the effects of therapeutic interventions.
5. Cognitive events, processes, products, and structures can be cast into testable formulations that can be integrated with behavioral paradigms, and it is possible and desirable to combine cognitive treatment strategies with enactive techniques and behavioral contingency management.
6. The task of the cognitive-behavioral therapist is to act as a diagnostician, educator, and consultant who assesses distorted or deficient cognitive activities and dysfunctional behavior patterns and works with the client to design learning experiences that remediate dysfunctional cognition, behavior, and affective patterns.

A cognitive-behavioral model of child 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) underscoring the centrality of mediating/information-processing factors in both the development and remediation of childhood disorders. 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 later factors are accepted as influential in certain disorders (e.g., Down's syndrome) but of less concern in many others. Affective processes, family systems, and social contexts are not given primary emphasis, but these factors are recognized and integrated.

Cognitive-behavioral analyses of childhood disorders involve considerations of numerous features of the child's internal and external environment and represent an integrationist perspective. As evident in the discussion that follows, cognitive, affective, social, and developmental processes are given meaningful roles alongside behavioral processes in understanding etiology and prescribing remediation.

COGNITIVE FEATURES

"Cognition" has long been viewed by many psychologists as almost inaccessible. While the initial focus on accessible cognition relied heavily on simple self-reported experiences, such as self-talk, increased attention directed toward an understanding of cognition revealed a more complex system. Marzillier (1980) and Turk and Spears (1983) discussed cognitive events, cognitive processes, and cognitive structures. Ingram and Kendall (in press) further distinguished cognitive content (events), cognitive processes, cognitive products, and cognitive structures. Cognitive structures can be defined as the manner in which information is internally represented in memory. Cognitive content refers to the information that is actually represented—the cognitive contents of the cognitive structures. Cognitive processes are the procedures by which the cognitive system operates. Cognitive products are the cognitions that result from the interaction of information, cognitive structures, content, and processes. Psychopathology may be related to problems in any or all of these areas.

These dimensions are related yet can be viewed separately and meaningfully along a temporal dimension (Kendall & Braswell, 1982a), where cognitive activities are considered in relation to behavioral events. For instance, expectancies such as self-efficacy and response-outcome expectancies (Bandura, 1977) precede behavioral events, self-talk (Ellis, 1971;

Meichenbaum, 1977) and current concerns (Klinger, 1981) are more concurrent with behavioral events, and attributions follow and help to disambiguate the causes of behavioral events (e.g., Metalsky & Abramson, 1981). Specific cognitive events are acted upon via cognitive processes resulting in cognitive products. The way in which information is processed determines the end product: An identical situation can be experienced/processed differently and result in differential learning.

Behavioral events do not occur in isolation. Rather, behaviors are inextricably a part of sequences of multiple events. Cognitive structures, such as beliefs, schemata, and attributional styles are more organized features of cognition that develop after multiple behavioral events. A cognitive-behavioral model is therefore concerned with the cognitive activities that surround behavioral events and seeks to determine how anticipatory, concurrent, and post hoc cognitions contribute to adaptive and maladaptive patterns of behavior.

In addition to the differentiations of cognitive activities noted thus far, a further differentiation can be made regarding the type of cognitive pathology: cognitive deficiency versus cognitive distortion. Deficiencies refer to an absence of thinking (lacking cognitive activity where it would be beneficial), whereas distortions refer to dysfunctional thinking processes. I have elsewhere (Kendall, 1981a) made this distinction to highlight the differences between the forerunners of cognitive-behavioral therapy with adults that focused on modifying dysfunctional thinking (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; Meichenbaum & Goodman, 1971; Kendall 1977). The distinction can be furthered when socially isolated children are considered as targets (Kendall & Morison, 1984) since the nature of their cognitive problem resembles more dysfunctional thinking of the distortion type (misperceiving demands of the environment) than an absence of thinking. Thus, while the deficiency/distortion distinction was initially used to differentiate adult and child approaches, it appears to offer promise as a way to conceptualize different types of childhood disorders.

The terms *deficiency* and *distortion* to describe features of cognitive psychopathology in children typically have been used without specific attention to the distinction that I am making; nevertheless, there are many instances where, even if unwittingly, the terms that have been employed are consistent with it. For instance, Prior (1984, often citing Hermelin & O'Connor, 1970) describes the considerable evidence concerning "the nature of the cognitive deficits in autism" (p. 8) (e.g., suggested inability to use meaning to aid recall). Rubin, Daniels-Beirness, and Bream (1984) summarize the correlates of social withdrawal in early childhood, referring to a

“cognitively limited social problem solving repertoire” (p. 24) and, in the broader sense, are concerned with “social-cognitive deficits” (p. 25). The dominant role assigned to distortions (errors) by rational-emotive theory is evident in DiGiuseppe and Bernard’s (1983) comment that “emotional disturbance develops because of one of two types of cognitive errors: empirical distortions of reality that occur . . . (inferences) and exaggerated and distorted appraisals of inferences” (p. 48). In contrast, Spivack and Shure (1982) contend that deficits in interpersonal cognitive problem-solving skills carry etiological clout, and Meichenbaum (1977) and Kendall (1977) have described impulsivity as a disorder resulting from mediational deficits.

To further illustrate the differences between distortions and deficiencies, consider the role of cognition in overcontrolled and undercontrolled childhood disorders. Anorexia, most often observed in youthful females, is related to setting perfectionistic goals and demands, carrying an inaccurate view of the self (e.g., self-perception of body), and being “too good” behaviorally. These features of an overcontrolled problem reflect cognitive distortions. Impulsive acting-out and aggressive behaviors, more characteristic of young boys, are related to a lack of self-control, a failure to employ verbal mediational skills, and a lack of perspective-taking. The undercontrolled problem child seems to evidence a deficiency in activating and following careful and planful cognitive processing. My argument, if allowed to be extended, is that undercontrol versus overcontrol (or externalizing versus internalizing, Achenbach, 1966) is an important behavioral differentiation and that distortions versus deficiencies is an important cognitive differentiation.

It would be premature to say that we know what it takes cognitively to attain and maintain satisfactory adjustment. Individual differences in definitions of adjustment would likely preclude reaching a consensus, yet there is sufficient information to propose that realistic, rational, and flexible cognitive styles are desirable over unrealistic, irrational, and rigid styles (cf. Arnkoff & Glass, 1982) and that having access to and engaging in the cognitive processes necessary for problem resolution is superior to deficient processing (cf. Spivack & Shure, 1982). Thus, the cognitive-behavioral model does not offer a single-minded explanation as much as a series of guideposts for adjustment. For example, the model does not prescribe that all children 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, but awaits further research before articulating more specifics.

Another cognitive feature of the model that holds promise is the organizing concept of schema. A schema, as cognitive structure, refers to

one's cognitive representations of past events—a template that individuals impose upon their world, effecting what is perceived, recalled, and viewed as important. As children proceed through the course of academic education, life experience, and social interaction they store externally and internally generated material. Piaget (1926) and Lee (1975) describe how social schema develop. Much needs to be learned about schematic functioning before it can be incorporated fully into an effective model, but we can already see meaningful clinical implications emerging from our admittedly inchoate knowledge. For instance, children with distorted social schemata would require new experiences in carefully planned social situations, along with guided interpretations and evaluations of the interactions to facilitate both accurate schematic storage of the present events and needed revisions to already stored experiences. A verbalizing, coping model (Kazdin, 1974; Meichenbaum, 1971; Sarason, 1975) is a promising style for the therapist to adopt.

AFFECTIVE AND SOCIAL FEATURES

The label “cognitive-behavioral” communicates a great deal but can be too cryptic to capture the actual complexities of its system. I have elsewhere proposed a definition of cognitive-behavioral therapy describing it as “a purposeful attempt to preserve the demonstrated efficiencies of behavioral modification within a less doctrinaire context and to incorporate the cognitive activities of the client in the efforts to produce therapeutic change” (Kendall & Hollon, 1979, p. 1). While I remain comfortable with this characterization, considerable expansion is necessary to truly communicate all facets of the cognitive-behavioral model.

The tag cognitive-behavioral can be perceived as a direct insult to the role of affect and the social context. This is simply not the case. The term *cognitive-behavioral* is a hyphenated hybrid for cognitive, behavioral, affective, and social strategies for change. Abandoning an adherence to a singularly behavioral model, the cognitive-behavioral model includes the relationships of cognition and behavior to the affective state of the organism and the functioning of the organism in the larger social context.

Theoreticians have assigned affect to both primary and ancillary roles in childhood psychopathology. Ascribing primary responsibility to affect is evident in Bernard and Joyce (1984), where child psychopathology is said to be caused by emotional problems. Santastefano and Reider (1984) view cognition and affect as inseparable, referring to them as “one and the same” (p. 56) and thereby assigning a comparable etiological contribution to each. I argue that while cognition and affect are interrelated, the variance in the etiology of some disorders may be best accounted for by cognitive

assessments and analyses, whereas some other disorders may be best understood by a more direct appraisal of affect.

The fact that our behavioral patterns in the external world and cognitive interpretations in the internal world pertain to social/interpersonal contexts convinced the cognitive-behavioral perspective of the importance of the social context. A crucial aspect of adjustment is the social context to which the person adjusts, and thus any model must concern itself with social/interpersonal issues.

For children, the centrality of the social context is underscored. Indeed, there exists wide agreement that satisfactory relations with peers is a crucial component of a child's successful adjustment and that an understanding of peer relationships (Hartup, 1984) is required for assessment and intervention. The role of the family in the development of child psychopathology need not be contested, for it is equally widely accepted that this social microcosm sets many of the rules and roles for later social interaction. Acknowledgments of peer and family contributions to psychopathology, however, far outweigh the research data base that is currently available, and the need for further inquiry cannot be over-emphasized.

CRITIQUE OF RELATED INTERVENTIONS

A major criterion for evaluating the merits of a model of psychopathology is the clinical utility of the model in facilitating successful interventions. When a model provides a template for cautious and proper matching of types of treatment to types of disorder, the model becomes increasingly meaningful for both academicians and clinicians. To date, the paucity of details ascribed to the cognitive-behavioral model has restrained optimal matching. Having provided consideration of some of the main themes of the model, several ways to focus a critique of the existing outcome literature may be apparent. The degree to which the extant reports had adhered to a singular model would be an inappropriate criterion since the model itself is nascent and portrays plasticity. Rather, the cognitive, affective, social, developmental, and behavioral aspects of the model will serve as guideposts for recommendations and commentary.

Affect

Bernard (1981) called attention to the seeming neglect of affect within cognitive-behavioral approaches to the remediation of childhood problems. Referring to the cognitive-behavioral treatment of impulsivity in children,

Bernard proposed that affective (emotional) disturbances were the cause of impulsivity and that treatment failed to pay sufficient attention to affect. In contrast, I have elsewhere argued (e.g., Kendall & Braswell, 1985) that impulsive children evidence behavioral patterns that betray a lack of forethought. When given an option, impulsive responders provide a response before a careful evaluation of the alternatives. Indeed, fast and inaccurate responding is definitive of impulsivity. In this case, the disorder seems a most aptly considered one in which there is an absence of careful thinking. Actions are evident, with no motor retardation and no social or other inhibition. The actions result in unwanted effects that could be avoided if forethought were activated. Impulsivity seems the result of an absence of cognitive activity (cognitive deficiency). It is not that affect is unimportant in the cognitive-behavioral model, but that it is differentially involved in the various disorders, with deficiencies being central to an understanding of impulsivity and cognitive distortions and associated affective problems related more centrally to other maladies. Proper treatment for impulsivity, therefore, emphasizes the teaching of thinking skills. However, a child's affective state can moderate his/her learning and development of thinking skills, such as a child failing to stop and think because he/she is very angry. Strategies for teaching impulse control now include separate sessions that address the need to expand the child's affective vocabulary and understanding. Affective education and role-play exercises are designed and included to bring the affect of the criterion situation into the training session. If affect is evident in the criterion situation, then it is to be equally evident in the training sessions. The taunting game used by Goodwin and Mahoney (1975) and the filming exercises described in studies of perspective-taking training (Chandler, 1973) appear to be reasonable prototypes for role-plays that elicit affective arousal and provide an affectively accurate context for cognitive-behavioral training.

Developmental and Cognitive Concerns

Perhaps the nearest thing to a platitude for applied child researchers is the phrase made popular by Kiesler (1966) and Paul (1967) in which we are reminded that no one single treatment will be the optimal intervention for all types of disorders. We strive to avoid the uniformity myths when we seek to discover what treatment, provided by what type of therapist, will produce what effects on what types of disorders. The many qualifiers in the statement are ample evidence of the myth of a single cure-all. Particularly pertinent to the present discussion are the facts that (a) children are not a uniform group and (b) there is no single cognitive-behavioral treatment for all children.

When clinical child psychologists view children as a homogeneous group they are guilty of the “developmental level” uniformity myth (Kendall, 1984). Children of different ages cannot be lumped into one condition to receive a single type of treatment, and even children of the same age may not necessarily be functioning at the same developmental level. The mandate to avoid the uniformity myths in psychotherapy research touches the clinical child arena most poignantly regarding the developmental level of the functioning, in particular cognitive functioning, of the target children.

Not all childhood disorders are best treated with a single version of cognitive-behavioral procedures. For instance, self-instructional training, as outlined in the seminal contribution of Meichenbaum and Goodman (1971), contained both theoretical underpinnings and strategic application geared to induce the inhibition of action. The self-talk was graduated and sequenced to guide and control excessive and unwanted fast behavior. It would not appear on theoretical or practical grounds that this intervention would be the proper design for remediating childhood depression, school phobia, or social withdrawal as the nature of these later problems does not include a deficit in planful mental activity. It is always tempting to expand the area of application of a treatment, but it would not seem worthwhile to continue the application of *unmodified* forms of self-instructions. When interventions strive to remediate deficits in internal cognitive functioning, we must be certain to have a theoretical rationale for the application of the procedures and knowledge that our target sample is developmentally capable of the skills we teach. Self-instructional procedures can be incorporated into programs for socially isolated children, but the content, format, and underlying rationale are different from self-instructional procedures with non-self-controlled problem children. It is possible that withdrawn children would benefit from learning to make a realistic scrutiny of social situations—not to inhibit thoughtless behavior but to facilitate reaching a less distorted perception and interpretation of the observed events. Withdrawn children may be fraught with negative self-statements based on cognitive errors that inhibit them from active participation in social events. Correspondingly, self-instructional training would not focus on action-inhibiting self-talk, but on action itself. Cognitive-behavioral strategies with social isolates might profit more readily from a focus on the disconfirming of the isolate’s inaccurate cognitive processing.

A proper consideration of the importance of developmental features requires that more than age or IQ be examined (Cole & Kazdin, 1980; Kendall, 1977, 1984; Kendall, Lerner, & Craighead, 1984; Copeland, 1983). Knowledge regarding the typical issues faced at various developmental levels assists the therapist in designing and implementing treatment, and the predictive efficacy of developmental models provides data on developmen-

tal trajectories such that preventive interventions can be arranged (Kendall et al., 1984). Such considerations emerge in the literature on social skills training for socially isolated children. As detailed by Cummings (1984), developmental changes in children's conceptions of friendships and in children's interactions with peers are directly implicated in the selection of content for social skills training. The data concerning children's stated expectations for friendship suggest a pattern of development from early situational concerns such as propinquity and physical possessions to an increasing emphasis on contractual and normative expectations such as mutual sharing, and ultimately to a recognition of the personality characteristics and interests of the friend, with emphasis on intimacy and mutual understanding (Cummings, 1984). The available data evidence sufficient consistency to warrant specific skill training programs keyed to the developmental level of the target children.

The present critique must address not the failure to mention the need for attention to developmental factors but the lack of incorporation of such a recommendation into the design, analysis, and discussion of the report. It would no longer be acceptable or publishable merely to suggest that level of development may affect outcome. Inclusion of a developmentally relevant subject variable as part of the factorial design of the outcome evaluation will provide valuable information, is not plagued by attendant difficulties, and thus should be a required addition to sound research. Examples of research that has successfully integrated developmental levels include that of Schleser, Meyers, and Cohen's (1981; see also Meyers & Cohen, 1984) findings that cognitive level of development, defined in Piagetian terms, mediated the ability of both the content and the process of self-instructional training to generalize to nontraining tasks.

Future basic and applied investigations in (a) parent training and (b) normative developmental data would benefit greatly from cognitive-behavioral influences. In contrast to the behavioral model of parent training, where the theme is the acquisition by parents of the knowledge and ability to use social learning principles, a cognitive-behavioral program not only maintains the behavioral training but also provides parents with accurate expectations based on developmental information. For instance, should a parent expect a 6-year-old to understanding the social rules surrounding personal possessions? Since data suggest that parents of problem children are uninformed developmentally and that they hold expectations consistent with the false idea that the child is a miniature adult, modification of inaccurate expectations can help resolve conflictual situations.

Accepting the fact that the nascent organism will change and that there will be periods of testing various behavior patterns (wearing different, hats), we must exercise caution so as not to ascribe a diagnostic identifier to

a transient condition. Normative developmental information will assist in the identification of disturbed youth since potentially troublesome patterns can be judged against a normative backdrop. Importantly for assessments of outcome, normative data can serve as the crucible for evaluation of the clinical significance of attained behavior change (see Kendall & Norton-Ford, 1982).

Whither Behavioral Contingencies?

The novelty and enthusiasm associated with structured applications of behavioral contingencies (e.g., token economies) has waned. Generalizations from those well-designed learning environments are not typically evident, but the effectiveness of such programs in instilling a mechanism of control in the environment in which they are active is no less a reality. Adhering to the programming of behavioral contingencies (keeping the behavioral in cognitive-behavioral) is an important component of successful treatment. This concern resurfaces as a source of explanation for the differential effects reported as outcomes from cognitive-behavioral programs (i.e., programs including systematic behavioral procedures evidence superior outcomes when compared with solely cognitive programs; Kendall, 1984). It is valid to criticize studies that have failed to include systematic application of behavioral contingencies. Individual studies guilty of such neglect need not be identified here; the greater concern is with future applications and fair evaluations of their efficacy. If programs are implemented sans what appears to be a very potent component, researchers and clinicians may be misled into drawing inaccurate conclusions.

Conscientiously applied contingency management programs have desired effects in the context of the program. Typically, such successful programs have control over almost all aspects of behavior in the environment in question. This state of affairs could be described as a maximum quantity of imposed control. Cognitive interventions also have an impact on participants, but the therapist cannot be with (or inside the head of) the client at all times; therefore, such programs provide only a moderate quantity of imposed control. Behavioral and cognitive interventions differ, and large portions of the variance in outcomes may be related to this dimension of imposed control. For maximal therapeutic benefit when working with childhood behavior disorders, it may be necessary to combine the benefits of control afforded by behavioral procedures and the increased likelihood of persistent change that can be associated with the child's learning new ways of thinking.

One assumption within the behavioral contingency management literature is that persons respond similarly to similar contingencies. Rein-

forcers vary from individual to individual, but reinforcement, for instance, works in a universal manner. The cognitive-behavioral model accepts the potency of behavioral contingencies, but only when the individual's cognitive processing of the reinforcement experience is taken into account. A single contingency can have differential effects depending upon the individual to whom it is applied. At a more macro level, it is proposed that different contingencies will have differential effects on subjects who vary in their manner of cognitive processing. The example I use is the special utility of response-cost contingency over reinforcement for cognitively impulsive but not reflective children. Responses to this call for research on the cognitive individual differences that moderate the effects of behavioral contingencies would prove valuable for theoretical and applied efforts.

Social/Contextual Issues

The model requires that greater attention be paid to the conditions necessary for the emergence of reasonably accurate and nondetrimental schematic organizations. One criticism of earlier cognitive-behavioral efforts relates to the relative lack of emphasis on the social/contextual factors that influence cognitive structures. On the basis of developmental findings we know that peers play a central role in adjustment, and on the basis of extrapolations from outcome data we can surmise that the generalization of positive change is related to the context of training. Thus, peers should be involved in training and the context of training should best resemble the environment to which generalization is intended. Steps in this direction have been taken (e.g., providing training in groups, employing appropriate training tasks), but added attention needs to be directed toward the target child's structure for organizing and remembering the therapeutic experiences we provide. Individual children may require training in how to think about and evaluate the therapeutic experience and others may need training to correct misinterpretations of the experience. It is this focus on the child's mental representations of the social contexts we provide as therapy that requires further inquiry, research evaluation, and clinical application.

THE FINAL FOUR: BREVITY, SPECIFICITY, QUALITY, AND INVOLVEMENT

Reviews of therapy outcome studies with adults include tabulations of the average duration of treatment. According to Shapiro and Shapiro (1983), the average subject in therapy research received 7 hours of treat-

ment. I suggest that our therapeutic expectations require fine tuning. It does not seem reasonable to expect that three ½-hour sessions, six 20-minute sessions, or the like are sufficient to change established patterns of behavior and cognitive structures. Teachers require more time to teach simple math concepts. While my own research has reported that 12 hours of training produced generalization of behavioral improvement to the classroom (Kendall & Braswell, 1982b; training took place at school and involved school-related tasks and activities), we did not achieve generalization to the home and the effects dissipated after 1 year. Following such demonstrations of attainable effects, lengthier treatments are required to maximize clinically meaningful outcomes. When working with a case from a child psychiatry facility the application of a similar program required a year and a half (Kendall & Urbain, 1981). The field has proceeded beyond initial demonstrations of the short-term efficacy and potential of certain intervention strategies and we must now address more challenging questions with more comprehensive programs.

Evidence regarding the issue of specificity is crucial to an understanding of the role of cognition in child psychopathology. Studies must examine the degree to which any identified deficits are specific to the disorder of interest and distinct from the correlates of other disorders. If interventions are to be designed for specific types of childhood disorders, then we must be certain to first identify the nature of the cognitive, behavioral, and affective problems that are specific to that disorder. Use of comparison groups of children with disorders other than the disorder of interest will help address the issue of specificity (e.g., including a group of hyperactive children as well as nondisturbed controls in a study of the cognitive distortions in depression).

Our search for “the” active ingredient in psychological therapies has led us to descriptions of the therapist-child relationship and the techniques used in treatment. Both relationship and strategy factors remain important, but each can vary along a dimension of quality, and it is these variations in quality that may be predictive of outcome. Choosing a preferred strategy but employing it haphazardly may result in unimpressive outcomes relative to a high-quality application of a second-preference strategy. Given the range of quality that exists for clinical application of cognitive-behavioral procedures we can see that some calibration of quality may be necessary before accurate conclusions about the effectiveness of various treatments can be drawn.

A candidate for consideration as an active ingredient in effective psychological treatment with children is the extent of each child’s active involvement in the intervention program. A child’s making suggestions, seeking assistance on tasks, and positive postsession affect may be indicative of

involvement. Obviously a part of a sound therapist–child relationship and potentially more easily evoked by a sound treatment strategy, active engagement in the therapeutic curriculum has been found to be a predictor of outcome in one cognitive-behavioral intervention (Braswell, Kendall, Braith, Carey, & Vye, 1985).

Viewing child cognitive-behavioral therapy as a downward extension of adult approaches, as a strict behavioral method that merely mentions cognitive activities, or as a narrowly defined and closed enterprise would be simplistic, unfair, and inaccurate. The nascent field reflects more an integrative and expansive system than a closed one and seeks to further understand the many added complexities associated with cognition in psychopathology and remediation. Affective, developmental, and social considerations are incorporated into the model and further program and research developments are required to provide greater specificity to the impact of these features and to provide greater substance to the matching of type of childhood disorder to the most efficacious intervention.

REFERENCES

- Achenbach, T. M. (1966). The classification of children's psychiatric symptoms: A factor analytic study. *Psychological Monographs*, *80* (Whole No. 615).
- Arnkoff, D. B., & Glass, C. R. (1982). Clinical cognitive constructs: Examination, evaluation, and elaboration. In P. C. Kendall (Ed.), *Advances in cognitive-behavioral research and therapy* (Vol. 1, pp. 1-34). New York: Academic Press.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavior change. *Psychological Review*, *84*, 191-215.
- Bernard, M. E. (1981). Private thought in rational-emotive psychotherapy. *Cognitive Therapy and Research*, *5*, 125-142.
- Bernard, M. E., & Joyce, M. R. (1984). *Rational emotive therapy with children and adolescents: Theory, treatment strategies, preventive methods*. New York: Wiley.
- Braswell, L., Kendall, P. C., Braith, J., Carey, M. P., & Vye, C. S. (1985). "Involvement" in cognitive-behavioral therapy with children: Process and its relationship to outcome. *Cognitive Therapy and Research*, *9*.
- Chandler, M. J. (1973). Egocentrism and antisocial behavior: The assessment and training of social perspective-taking skills. *Developmental Psychology*, *9*, 326-332.
- Cole, P. M., & Kazdin, A. E. (1980). Critical issues in self-instructional training with children. *Child Behavior Therapy*, *2*, 2-23.
- Copeland, A. P. (1983). Children's talking to themselves: Its developmental significance, function, and therapeutic promise. In P. C. Kendall (Ed.), *Advances in cognitive-behavioral research and therapy* (Vol. 2, pp. 242-279). New York: Academic Press.
- Cummings, L. (1984). *Social skills training for withdrawn children: Toward a developmental perspective*. Unpublished manuscript, University of Minnesota.
- Dauids, A. (1975). Therapeutic approaches to children in residential treatment: Changes from the mid 1950's to the mid 1970's. *American Psychologist*, *30*, 809-814.
- DiGiuseppe, R., & Bernard, M. E. (1983). Principles of assessment and methods of treatment with children: Special consideration. In A. Ellis & M. E. Bernard (Eds.), *Rational-emotive approaches to the problems of childhood* (pp. 45-88). New York: Plenum.
- Ellis, A. (1971). *Growth through reason*. Hollywood: Wilshire Book Co.

- Goodwin, S., & Mahoney, M. J. (1975). Modification of aggression via modeling: An experimental probe. *Journal of Behavior Therapy and Experimental Psychiatry*, *6*, 200-202.
- Hartup, W. W. (1984). Peer relations. In P. Mussen (Ed.), *Handbook of child psychology*. New York: Wiley.
- Hermalin, B., & O'Connor, W. (1970). *Psychological experiments with autistic children*. Oxford, England: Pergamon Press.
- Hobbs, S. A., Moguin, L. E., Tyroler, M., & Lahey, B. B. (1980). Cognitive behavior therapy with children: Has clinical utility been demonstrated? *Psychological Bulletin*, *87*, 147-165.
- Ingram, R., & Kendall, P. C. (in press). Cognitive clinical psychology: Implications of information processing perspectives. In R. Ingram (Ed.), *Information processing approaches to clinical psychology*. New York: Academic Press.
- Kazdin, A. (1974). Covert modeling, model similarity and reduction of avoidance behavior. *Behavior Therapy*, *5*, 325-340.
- Kendall, P. C. (1977). On the efficacious use of verbal self-instructional procedures with children. *Cognitive Therapy and Research*, *1*, 331-341.
- Kendall, P. C. (1981a). One year follow-up of concrete versus conceptual cognitive-behavioral self-control training. *Journal of Consulting and Clinical Psychology*, *49*, 748-749.
- Kendall, P. C. (1981b). Cognitive-behavioral interventions with children. In B. B. Lahey & A. E. Kazdin (Eds.), *Advances in clinical child psychology* (Vol. 4, pp. 53-90). New York: Plenum Press.
- Kendall, P. C. (1984). Cognitive processes and procedures in behavior therapy. In G. T. Wilson, C. M. Franks, K. D. Brownell, & P. C. Kendall. *Annual review of behavior therapy*, (Vol. 9, pp. 132-180). New York: Guilford.
- Kendall, P. C., & Bemis, K. (1983). Thought and action in psychotherapy: The cognitive-behavioral approaches. In M. Hersen, A. E. Kazdin, & A. Bellack (Eds.), *Handbook of clinical psychology*. (pp. 565-592). New York: Pergamon
- Kendall, P. C., & Braswell, L. (1982a). On cognitive-behavioral assessment: Model, method, and madness. In C. D. Spielberger & J. N. Butcher (Eds.), *Advances in personality assessment* (Vol. 1, pp. 35-82). Hillsdale, New Jersey: Erlbaum.
- Kendall, P. C., & Braswell, L. (1982b). Cognitive-behavioral self-control therapy for children: A components analysis. *Journal of Consulting and Clinical Psychology*, *50*, 672-689.
- Kendall, P. C., & Braswell, L. (1985). *Cognitive-behavioral therapy for impulsive children*. New York: Guilford.
- Kendall, P. C., & Hollon, S. D. (1979). Cognitive-behavioral interventions: Overview and current status. In P. C. Kendall & S. D. Hollon (Eds.), *Cognitive-behavioral interventions: Theory, research and procedures* (pp. 1-13). New York: Academic Press.
- Kendall, P. C., Lerner, R. M., & Craighead, W. E. (1984). Human development and intervention in childhood psychopathology. *Child Development*, *55*, 71-82.
- Kendall, P. C., & Morison, P. (1984). Integrating cognitive and behavioral procedures for the treatment of socially isolated children. In A. W. Meyers & W. E. Craighead (Eds.), *Cognitive behavior therapy for children* (pp. 261-288). New York: Plenum.
- Kendall, P. C., & Norton-Ford, J. D. (1982). Therapy outcome research methods. In P. C. Kendall & J. N. Butcher (Eds.), *Handbook of research methods in clinical psychology* (pp. 429-460). New York: Wiley.
- Kendall, P. C., & Urbain, E. S. (1981). Cognitive-behavioral intervention with a hyperactive girl: Evaluation via behavioral observations and cognitive performance. *Behavioral Assessment*, *3*, 345-357.
- Kiesler, D. K. (1966). Some myths of psychotherapy research and the search for a paradigm. *Psychological Bulletin*, *65*, 110-136.
- Klinger, E., Barta, S. G., & Maxeimer, M. E. (1981). Current concerns: Assessing therapeutically relevant motivation. In P. C. Kendall & S. D. Hollon (Eds.), *Assessment strategies for cognitive-behavioral interventions*. New York: Academic Press.
- Lee, L. C. (1975). Toward a cognitive theory of interpersonal development: Importance of peers. In M. Lewis & L. A. Rosenblum (Eds.), *Friendship and peer relations*. New York: Wiley.

- Mahoney, M. J. (1977). A critical analysis of rational-emotive theory and therapy. *Counseling Psychologist, 7*, 44-46.
- Mahoney, M. J., & Arnkoff, D. (1978). Cognitive and self-control therapies. In S. L. Garfield & A. E. Bergin (Eds.), *Handbook of psychotherapy and behavior change* (2nd ed., pp. 689-722). New York: Wiley.
- Marzillier, J. S. (1980). Cognitive therapy and behavioral practice. *Behaviour Research and Therapy, 18*, 249-258.
- Meichenbaum, D. (1971). Examination of model characteristics in reducing avoidance behavior. *Journal of Personality and Social Psychology, 17*, 298-307.
- Meichenbaum, D. (1977). *Cognitive-behavior modification: An integrative approach*. New York: Plenum.
- Meichenbaum, D., & Goodman, J. (1971). Training impulsive children to talk to themselves: A means of developing self-control. *Journal of Abnormal Psychology, 77*, 115-126.
- Metalsky, G. I., & Abramson, L. Y. (1981). Attributional styles: Toward a framework for conceptualization and assessment. In P. C. Kendall & S. D. Hollon (Eds.), *Assessment strategies for cognitive-behavioral intervention* (pp. 13-58). New York: Academic Press.
- Meyers, A. W., & Cohen, R. (1984). Cognitive-behavioral interventions in educational settings. In P. C. Kendall (Ed.), *Advances in cognitive-behavioral research and therapy* (Vol. 3). New York: Academic Press.
- Meyers, A., & Craighead, W. E. (Eds.). (1984). *Cognitive behavior therapy for children*. New York: Plenum.
- Paul G. (1967). Strategy of outcome research in psychotherapy. *Journal of Consulting Psychology, 31*, 109-119.
- Piaget, J. (1926). *The language and thought of the child*. New York: Harcourt.
- Prior, M. (1984). Developing concepts of childhood autism: The influence of experimental cognitive research. *Journal of Consulting and Clinical Psychology, 52*, 4-16.
- Rubin, K. H., Daniels-Beirness, T., & Brem, L. (1984). Social isolation and social problem solving: A longitudinal study. *Journal of Consulting and Clinical Psychology, 52*, 17-25.
- Santostefano, S., & Reider, C. (1984). Cognitive controls and aggression in children: The concept of cognitive-affective balance. *Journal of Consulting and Clinical Psychology, 52*, 46-56.
- Sarason, I. G. (1975). Test anxiety and the self-disclosing model. *Journal of Consulting and Clinical Psychology, 43*, 148-153.
- Schleser, R., Meyers, A. W., & Cohen, R. (1981). Generalization of self-instruction: Effects of general versus specific content, active rehearsal, and cognitive level. *Child Development, 52*, 335-340.
- Shapiro, D. A., & Shapiro, D. (1983). Comparative therapy outcome research: Methodological implications of meta-analysis. *Journal of Consulting and Clinical Psychology, 51*, 42-54.
- Spivack, G., & Shure, M. B. (1982). The cognition of social adjustment: Interpersonal cognitive problem-solving thinking. In B. B. Lahey & A. E. Kazdin (Eds.), *Advances in clinical child psychology* (Vol. 5, pp. 323-372). New York: Plenum Press.
- Turk, D. C., & Speers, M. A. (1983). Cognitive schemata and cognitive processes in cognitive-behavioral interventions: Going beyond the information given. In P. C. Kendall (Ed.), *Advances in cognitive-behavioral research and therapy* (Vol. 2, pp. 3-34). New York: Academic Press.
- Urbain, E. S., & Kendall, P. C. (1980). Review of social-cognitive problem solving interventions with children. *Psychological Bulletin, 88*, 109-143.