



Is cognitive behavior therapy developmentally appropriate for young children? A critical review of the evidence

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Abstract

This paper questions the extent to which developmental considerations have been incorporated into the theory and practice of cognitive behavioral therapy (CBT). It focuses on children aged between 5 and 8 years because Piagetian developmental theory places them at a prelogical cognitive level, and thus, the use of a therapeutic approach that is based on a rationalist paradigm would be considered inappropriate. The cognitive demands made upon 5- to 8-year-old children by CBT are outlined, and the current developmental literature is reviewed in the light of this to evaluate the cognitive abilities of this age group. The models underpinning CBT are examined for evidence of the influence of developmental psychology, and the outcome literature of CBT techniques is then scrutinized to evaluate the efficacy of these techniques with young children. Conclusions are reached regarding the appropriateness of current cognitive-behavioral approaches with young children, and the implications for alternative approaches are briefly considered.

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1. Introduction

Cognitive behavior therapy (CBT) is widely used with adults and children alike (Beck, 1995) and, after behavior modification, is the most extensively researched child therapy technique (Kazdin, Bass, Ayers, & Rodgers, 1990). Characteristics that account for the popularity of CBT with children are its emphasis on teaching coping skills, promoting self-control, and enhancing self-efficacy (Kendall &

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Panichelli-Mindel, 1995). It is also the active participation of the child exploring his/her thoughts and beliefs in partnership with the therapist that is one of the key features that sets it apart from its behavioral and psychodynamic counterparts. Within the British National Health Service, its appeal derives from it being goal directed, evidence based, and relatively short term.

There is evidence of the efficacy of CBT with children and adolescents with a range of disorders, such as depression (Harrington, Wood, & Verduyn, 1997), anxiety (Kendall, 1994), and conduct disorder (Kazdin, Siegal, & Bass, 1992). However, the optimum combination of client and therapy variables is, as yet, unclear. In particular, there is uncertainty about the extent to which the age and developmental level of the child interacts with the success of the treatment (Spence, 1994). This is brought into stark relief by the poor long-term prognosis of childhood mental health disorders and the consequent need to develop and test the impact of effective early intervention (Target & Fonagy, 1996).

The search for the appropriate matching of client and therapy variables is complicated by the range of cognitive and behavioral techniques that are combined in different permutations and collectively described as CBT for children and adolescents (Ronen, 1997). There is therefore a question about the relative impact of the different cognitive elements of any CBT intervention and to what extent therapeutic change is cognitively or behaviorally mediated. The significance of this question is most acute with younger children because of their lack of sophistication in cognitive functioning. These effects are most likely to be pronounced in children aged between 5 and 8 years because, in general, these children have a level of verbal ability and independence, which allows for participation in an individual verbal therapy, but a relative developmental immaturity, which may preclude the use of such a therapy. The fact that CBT is derived partly from cognitive theory and therapy with adults raises the question of whether this age group of children does benefit from this therapeutic approach and what role their developmental status plays in this success or failure.

Few authors have discussed the relationship between developmental psychology and CBT with children. However, recently, a small number of authors have attempted to summarize the challenges posed by the integration of developmental and cognitive behavioral approaches (Ollendick, Grills, & King, 2001; Southam-Gerow & Kendall, 2000; Stallard, 2002). Despite the differing focus of each of these reviews, all of these authors conclude that (1) in practice, CBT with children needs to take into account the developmental stage of the child; (2) cognitive behavioral theory needs to be integrated with a developmental approach; and (3) specific areas of concern for CBT in children exist as a result of both children's inability to conceptualize certain issues at certain ages and specific deficits, which may have brought the child to the attention of the mental health service and also preclude or limit their participation in the more complex cognitive aspects of CBT.

Overall, the research evidence suggests that CBT is an effective treatment for childhood internalizing disorders, such as anxiety and depression (e.g., Harrington, Whitaker, Shoebridge, & Campbell, 1998; Southam-Gerow & Kendall, 2000). There has been little support for the use of CBT alone with externalizing disorders such as ADHD and conduct disorder. Several authors have suggested that broader based treatment strategies may be effective in these groups, including the use of parent training and medication (Kazdin et al. 1992; Southam-Gerow & Kendall, 2000). Many of the developmental characteristics of externalizing disorders (e.g., impaired executive function in ADHD, reduced empathy in conduct disorder, see Wenar & Kerig, 2000) may help to explain, from both theoretical and therapeutic perspectives, the reduced effectiveness of CBT within these groups. Executive function has been defined as "a complex cognitive construct that encompasses the set of processes that underlie flexible goal directed behavior (e.g., planning, inhibitory control, attentional flexibility, working

memory)... and it is "...crucial in situations that involve novelty, troubleshooting, multiple constraints or ambiguity" (Hughes, 2002, p. 69). Effective problem solving is therefore significantly impeded by problems with executive function. Individual differences in executive function also parallel individual differences in theory of mind (the ability to attribute mental states to self and others). Indeed, Happe and Frith (1996) suggested that the deficits in social insight observed in children with conduct disorder are similar with the deficits in theory of mind seen in children with autism. It is therefore likely that these specific deficits, which may have been responsible for bringing the child to the attention of clinical services, are also likely to significantly impede their ability to engage with a variety of cognitive operations required in traditional forms of CBT.

For a therapeutic approach to be shown to be effective with a particular age group of children, this paper examines whether its theoretical foundations should be couched in theory and evidence from developmental psychology. This paper will first examine the developmental status of 5- to 8-year-old children in relation to the demands of the cognitive therapeutic process. In the light of this, the theoretical models underpinning CBT will then be evaluated for evidence of the influence of developmental psychology in their construction. Finally, the outcome literature will be reviewed for indications of the efficacy of CBT with specific reference to this age group. Conclusions will then be drawn about the developmental appropriateness and clinical usefulness of CBT with young children, incorporating some recent findings from cognitive developmental psychology, which can inform specific aspects of CBT practice with children.

2. Do young children have the cognitive developmental capacity to use CBT?

Developmental psychology reveals a detailed understanding of the evolving, interwoven strands of the physical, emotional, and cognitive abilities of the developing child, making it possible to identify the particular cognitive capacities of younger children in relation to the demands made by the CBT process. This review is specifically targeted at early school-aged children because they have been shown to be underrepresented in the CBT outcome literature. Furthermore, existing review articles assessing the role of developmental psychology in CBT have not specified age limits and have included studies of adolescents in their reviews (e.g., Southam-Gerow & Kendall, 2000). In the cases where exclusion according to age is accounted for by researchers, the Piagetian view of the cognitive limitations of preoperational children (2–7 years of age) is cited as the reason. Piaget's stage model of intellectual functioning identifies the capacities of this developmental stage as being preoperational, indicating a prelogical period in which thinking is dominated by perception. This is qualitatively different from the concrete operational child (7 plus), who can use logical thinking about concrete concepts. This is followed by the development of abstract and hypothetical thinking of the formal operational adolescent (12 and over).

3. The role of cognitive development in the therapeutic process

To assess the cognitive requirements made on young children by a CBT approach, it is necessary to provide a general description of its theory and practice. Cognitive therapy is based on the assumption that irrational or maladaptive cognitive schemata (attitudes and beliefs), cognitive products (thoughts and

images), and operations (processing) influence problematic behavior. The aim of therapy is to help the child to identify possible cognitive deficits and distortions, to reality-test them, and then, either to teach new thinking skills or to challenge irrational thoughts and beliefs and replace them with more rational thinking (Kendall, Reber, McLeer, Epps, & Ronan, 1990; Ronen, 1997). CBT with children, as with adults, is based upon a rationalist paradigm (Mahoney & Nezworski, 1985). It requires logical analysis, rational disputation, and abstract thinking (Ronen, 1997). The ability to measure a thought or belief against the notion of a rational standard and the ability to understand that a thought or belief can cause a person to behave and feel in a certain way are both central to its proper use (Kendall et al., 1990). It can be argued that the cognitive capabilities required to understand and participate in this therapeutic approach are likely to be self-reflection, perspective taking, understanding causality, reasoning, and processing new information, as well as linguistic ability and memory. An examination of the developmental psychology literature enables a better understanding of how children under eight cope with these cognitive demands.

The Piagetian theory provides a detailed structure to understand the development of cognitive ability (Kovacs & Lohr, 1995). Although post-Piagetian theorists have introduced diversity in the field, Piagetian theory remains influential (Meadows, 1993) and a valid point of reference in examining the relationship between cognitive functioning and CBT. Current thinking has moved away from a rigid stage model, seeing movement within and between stages as more gradual and likely to take several years. In general, it is felt that Piaget underestimated the abilities of the preoperational child and overestimated the achievements of the later stages (Meadows, 1993).

Although Piaget's account of cognitive development identifies the ability to reason as beginning in the concrete operational stage, post-Piagetian theorists present a more mixed picture of reasoning abilities of children under 8 years of age (see Meadows, 1993, for a review). A distinction is made between formal and everyday reasoning in looking at developmental reasoning capacity. Formal reasoning is an abstract, rule-governed activity that requires the child to move from the given premises to the only correct answer without any additional information. Everyday reasoning uses familiar contextual information that is not rigidly specified and allows for more than one possible answer and emerges earlier in children's development than formal reasoning does. This indicates that the process of reaching a conclusion from some given information is present even in preschool children, but if the information is new and the task instructions incomprehensible, young children will not easily or readily comply. The evidence suggests that it is not that they do not know the answer but that they do not understand the question (Siegal, 1997).

As well as the familiarity of the material, other cognitive operations such as attention span and working memory capacity will impinge on a child's ability to grapple with a reasoning task (Meadows, 1993). Working memory deficiency has been found to be one of the strongest contributors to long-term scholastic underachievement in children with ADHD (Rapport, Scanlan, & Denney, 1999). Literacy skills and motivation will also play a role. An excellent example of the implications of this problem for both experimental cognitive developmental psychology and CBT with children is illustrated by the work of Mitchell and Riggs (2000) and Robinson and Beck (2000). Experimental research suggests that preschool children have difficulties with counterfactual reasoning; that is, they find it hard to ignore what they know to be true. Specifically, children in this stage of development find past hypothetical counterfactual questions (e.g., 'what if something different had happened') very hard to answer correctly (Riggs & Peterson, 2000). However, Robinson and Beck reported that while children found these past counterfactual questions very difficult, children as young as three could successfully answer questions

phrased as future hypothetical questions (e.g., ‘what if, next time, *x* does/does not happen’). Therefore, with minor changes to phrasing, children, at 3 years old, can engage in hypothetical thinking about the future.

Causal reasoning is fundamental to CBT. An explicit goal of CBT therapy is the child’s understanding of the causal connection between his/her cognitions and behavior. Causal reasoning about behavior is a process of making judgements about the relationship between events based on a hierarchy of increasingly complex concepts. At a simple level, judgements are made between cause and effect; at a more sophisticated level, the judgements differentiate whether a cause was intentional or accidental, for example (Shirk, 1988). There is evidence of quantitative and qualitative differences between children’s and adult’s causal reasoning. Therefore, what may be seen as distorted causal reasoning in children may, in fact, be normative (Shirk, 1988).

The development of causal reasoning begins with the location of causality in external, visible, and concrete ways and develops over childhood and adolescence, towards internal psychological constructs. Piaget noted that younger children would be more likely to infer a relationship between a cause and an effect if they occurred together in time or space. They are also influenced by a similarity between cause and effect, and their assessment of similarity is likely to be based on physical properties or external factors, such as visible consequences. To use a therapeutic example, a young child might understand that a past event, “I scribbled on the wall,” could cause current behavior, “Daddy’s left home,” by having a concrete mediating construct to link the two concepts, such as “Mummy and Daddy argued.” Although there have been challenges to this finding (Miller, 1985), there still remains substantial support for the view that young children do not readily infer internal causation but that causal reasoning becomes more psychological with age, for example, “Dad left home because Mum and Dad don’t love each other any more.” However, if this internal psychological information is supplied in a simple, understandable form, young children can use it accurately (Miller, 1985). Young children find the notion of any ‘unconscious,’ unseen processes problematic and require concrete mediating constructs to help make sense of it (see Shirk, 1988, for a fuller examination of this issue).

Given the heralded shifts in adult cognitive theory and therapy towards more analogical thinking (Goncalves, 1994), an understanding of the development of the capacity for analogical reasoning is highly significant. There is a lack of agreement on what ‘analogy’ is (Meadows, 1993); but essentially, it highlights a relationship between two subject areas based upon certain properties or effects within each rather than an overt similarity between them. Analogical reasoning is seen as central to learning, as it applies existing knowledge to the processing of new knowledge to make it understandable and to then construct new mental models. “Finding, using and evaluating analogies may therefore be one of the most important aspects of successful cognition” (Meadows, 1993, p.69). Analogical reasoning was thought to require a sophisticated capacity to identify and process higher order relations and was therefore not within the realm of preadolescents. However, as with formal and everyday reasoning, when younger children were given more information about the relationship between the subject areas in the analogy and clarity about what was required from them, their performance in studies of analogical reasoning improved significantly. Three- and 4-year-olds were able to solve the analogy “instant coffee granules is to mug of coffee as soap powder is to soapy water” (Goswami, 1991, cited by Meadows, 1993, Chap. 2).

Under very carefully managed circumstances (simple, clear logical exercises that contain no conflicting empirical truths from their practical world knowledge), even preschool children can demonstrate logical thinking (Hawkins, Pea, Glick, & Scribner, 1984), but outside of these conditions,

they have difficulties. An example of this is likely to be understanding and participating in the use of rational disputation of irrational cognitive schemas in CBT (Bernard & Joyce, 1984; DiGiuseppe, 1989).

From a Piagetian perspective, the functioning of the preoperational child is characterized by egocentrism or the inability to see the world from another person's perspective (Wadsworth, 1996). With cognitive development comes decentration or the capacity to stand back and reflect on one's own thoughts in relation to the external world, and vice versa (the hypothetico-deductive stage). Piaget's original meaning of egocentrism is significant: The egocentric child cannot be conscious of himself as a separate being or as separate from his environment, which he also sees as part of himself. Egocentric thinking leads to syncretism, that is, to perceive subjective reality as absolute, global schema (Favre & Bizzini, 1995).

From this theoretical standpoint, the normal cognitive processing of the preoperational child contains deficits and distortions when viewed from the perspective of adult functioning. In the context of CBT for adults, the egocentric thinking of the preoperational child would be considered to be a cognitive error and is akin to the thinking of a depressed person who is unable to perceive the world in relation to the perspective of others and who can only focus on his/her own depressogenic cognitions. In adult cognitive therapy, the goal would be to help the client to become more aware of his/her own thought processes and then to address the distortions of thinking in an empirical manner. Likewise, this identification and analysis of thoughts and beliefs is a key activity in CBT with children (Kendall et al., 1990; Ronen, 1997).

This process of thinking about thinking, also known as metacognition, develops from basic theory of mind around 3–4 years old (Bartsch & Estes, 1996). A typical 5-year-old capable of explaining other's behaviors, as a result of their mental states in terms of beliefs or desires, can understand the difference between mental and physical states and has a causal–explanatory framework for the interaction between mental states and behavior (Bartsch & Estes, 1996). However, a child with impairment in metacognitive function is likely to be less successful at these operations, both in a therapeutic context and in everyday functioning (e.g., Wenar & Kerig, 2000). Metacognitive development also encompasses the development of understanding about emotions, such as affective perspective taking. The speed of this development varies with a variety of factors, including the degree to which emotional states are discussed within the home (see Dunn, Brown, & Beardsall, 1991). At about 8 years old, normally developing children have the ability to determine that different situations will provoke different reactions in different people (Gnepp & Klayman, 1992) and that people can experience more than one emotion at a time (Friend & Davis, 1993). It is therefore likely that around this age, children will be capable of considerably greater emotional reasoning than their younger peers will.

Thinking about thinking also requires self-observation and self-evaluation, which both require a concept of the self in relation to others (Harter, 1988). In the same way that causal understanding develops, self-understanding begins with simple physical attributes in early childhood, then focuses more on behavior and social definitions through middle and late childhood, and finally becomes psychologically based in adolescence (Shorin & Hart, 1988). This model holds that in early and middle childhood, self-observation of internal, abstract activities is not possible (Selman, 1980, cited in Harter, 1988, Chap. 4). However, it has been suggested that as early as 3 years old, children do not describe their behaviors as a collection of unrelated events but rather reflecting distinctive 'personalities' (Eder, 1990).

The therapeutic goal of reflecting on a child's own thoughts, emotions, and self-attributes is considered both unattainable and undesirable for young and, often, older children as well (Harter, 1988). Based on her model of self-understanding, Harter reports on evidence that children aged from 4 to

12 years chose action over thought strategies to deal with negative emotions (Johnson, 1983, cited in Harter, 1988 Chap. 4). Extrapolating from this, she proposes that children up to adolescence are likely to prefer therapeutic endeavors that are active, concrete, and outward focused than those that are verbally based, abstract, and introspective. Furthermore, the use of activity-based therapeutic exercises is advantageous from a metacognitive perspective. Normally developing children of 4 years know that they have new knowledge when it is acquired behaviorally (Esbensen, Taylor, & Stoess, 1997). Therefore, not only are active strategies a good way of teaching new skills, but they facilitate the development of children's awareness that they know something new, giving the potential for the child to reappraise her skills and abilities.

The more recent evidence on the understanding of false belief offers a somewhat different view of children's ability to identify and reality-test their cognitive processes and products. The false belief paradigm tests whether a child, knowing that his belief is true, can recognize that another person can hold and act on a false belief and therefore behave in a different way from the child. Success on this task indicates that the child is able to attribute beliefs to another person and anticipate their behavior based on their beliefs. This involves the child having knowledge of his own cognitive activities. There has been a great deal of research activity based on this paradigm, and agreement regarding a pattern of development has emerged, but disagreement is evident regarding the age at which a child develops the stages of a theory of mind (Flavell, Miller, & Miller, 1993). Two- and 3-year-olds have been observed talking about their own and others' feelings, intentions, and behavior, but an understanding of other people's minds was expected to develop after this (Dunn, 1991). Understanding that the mind can hold a false belief is more likely in 4-year-olds, but it is not until about 6 years of age that the concept of a more 'active mind' begins to influence thinking (Flavell et al., 1993), although there is disagreement over whether this represents an adult notion of an active mind. The argument put forward by Chandler (1988) is that the concrete thinking of middle childhood accepts that the same reality can be perceived in different ways by different people, but that this is due to one perspective being incorrect rather than due to a different set of beliefs derived from a different personal history. A mature view of an active, interpretive mind may not be established until adolescence (Chandler, 1988). It is this concept of a constructive mind (a Piagetian notion) that mediates and interprets reality, thus accounting for different people holding different perspectives, that is required to meet the demands of CBT.

When taking the evidence from the theory of mind research, together with the theory and evidence on the development of self-understanding, a picture emerges of an early school-aged child who understands that she thinks and has a rudimentary notion that her thoughts about an event may be different from someone else's, causing their behavior to be different. However, she is likely to think that the other person's thoughts are incorrect because they are different from her own, which reflect reality.

This represents a further manifestation of Piaget's notion of centration, which is dichotomous thinking, where the child sees things as "all or nothing," with no allowance made for ambivalence, mediating, or mitigating factors (Leahy, 1995). This is connected with a normative trend towards exaggerated self-attribution with regard to skills and talents during the 5–7 year age range (Harter, 1993). If the child perceives himself to be "good" at numbers or running, then this prevents him from thinking of himself as being "bad" in another category. The reverse perception of being "all bad" could derive from negative or abusive early experiences. Young children find it difficult to process new information that is conflicting with the information that they already have regarding their perception of people (see Bierman, 1988, for a review). When presented with film clips in which the main character was involved both in good and bad behavior, 6-year-olds recalled only one of the behaviors, whereas 10-

year-olds recalled both (Gollin, 1958, in Bierman, 1988). They tend either to reject the incongruent information or make a global shift in their current perception to render the new information congruent. This is also considered to be a cognitive error in adult functioning and would be considered to be examples of overgeneralizing and negative filtering (Leahy, 1995). In CBT with children, the requirement to challenge and change irrational thinking is likely to be impeded by this inflexible approach to dealing with new and incongruent information.

Having outlined some of the significant qualitative differences in cognitive skills and processing, there remain the more obvious quantitative differences to consider. Younger children have limited experiential knowledge, memory capacity, attention span, and general mental organizational ability (Crick & Dodge, 1994; Russell & van den Broek, 1988), all of which will impact upon their functioning in the cognitive therapeutic domain. On balance, theory and evidence suggest that preoperational and early operational-stage children will not automatically or easily demonstrate the cognitive skills required in CBT. Although they are beginning to reflect on their own thinking processes, they will not spontaneously do so. They struggle to causally connect internal events with external behaviors, to use formal reasoning, and to process new and incongruent information. Nonetheless, young children are more sophisticated cognitively than Piaget described.

It is of significance to note here that this underestimation of their abilities may be due to the way in which they were tested. It has been shown that when complex cognitive tasks are set using familiar, explicit, and attractive concepts, settings, instructions, and goals, even very young children are able to complete them (Siegel, 1997). Proving that at what age children are capable of certain activities is often an artifact of experimental design, or limitations in children's language comprehension or expression, rather than actual capability (Shaffer, 1996). Thus, experimental developmental psychology often underestimates children's abilities and confuses competence with performance. Minor adaptations to experimental procedures or question phrasing can reveal dramatic decreases in the age at which children can achieve important developmental milestones, such as social perspective taking, empathic and emotional understanding, and the capacity to understand that another's beliefs may differ from their own (see Schaffer, 1996). Similarly, children who are exposed to basic training, to familiarize them with experimental procedure or requirements, can perform successfully on tasks at which their untrained age-matched peers fail and can apply their new knowledge to tasks for which they had not received training (e.g., Field, 1981). The implication for cognitive behavioral theory and therapy is that given clear, simple instructions in the use of these skills, based upon familiar material from their everyday lives, children may be capable of, and benefit clinically from, cognitive procedures at an earlier age than experimental psychology may suggest. Furthermore, experience with creatively delivered cognitive procedures may enable children to participate in cognitive operations in specific contexts prior to their general achievement of that operation in normal development. A possible example of such procedures can be seen in the work of March, Franklin, Nelson, and Foa (2001) in early onset obsessive-compulsive disorder. However, this is a cognitive-behavioral package, with no clear evidence of the relative efficacy of the different treatment components. It is therefore likely that the behavioral exposure and response prevention elements of the package account for a significant amount of the positive outcomes seen.

Early school-aged children (5–8 years) represent a dynamic stage in the complex growing and changing range of cognitive abilities that span childhood and adolescence. If CBT is to be appropriate and effective for this age group, it would be expected that a reflection of their cognitive developmental status would be found in the theoretical models underpinning it.

4. Evidence of a developmental perspective in cognitive models underpinning therapeutic approaches

The basic assumption underlying cognitive therapy is that psychopathology is an indication of either distorted or absent cognitive products, schemata, or operations (Spence, 1994). There is a relatively large evidence base for this in the adult clinical domain compared with the child literature (DiGiuseppe, 1989; Urbain & Kendall, 1980), which brings into question the origin of this assumption. Have the models underlying cognitive behavioral approaches to therapy with children taken the complex and shifting nature of the developing child as their starting point, or do they represent downsized models based on adult functioning? Whereas psychoanalytic and nondirective therapies have clear developmental roots, CBT seems to have been disadvantaged by the behaviorist's emphasis on changing current behavior and the lack of interest in a developmental perspective (Wenar, 1982).

The theoretical model that relates psychopathology to characteristically biased cognitive styles derives from Beck's cognitive theory of depression in adults. Research evidence has been found for characteristic cognitive errors¹ in children with depressive and anxious symptomatology (Leitenberg, Yost, & Carroll-Wilson, 1986; Spence, 1994). In this study, no interaction was found between the school grade (as an indication of developmental level) and content of cognition. However, the youngest participants (aged 9–10) scored more strongly on catastrophizing and personalizing errors than older children did. This was accounted for by the authors as the egocentric nature of their social perception, leading them to take more personal blame for bad outcomes. Although 9-year-olds would not be considered to be typically egocentric, this could represent an example of normative cognitive errors.

Kendall, Stark, and Adams (1990) included 9 children from Grade 3 (8 years) in a sample of 38 children (with a mean age of 10 years 4 months) to examine whether there was an interaction between age and negative self-evaluation in children with depression. The only significant age effect found was that the older children set higher standards for themselves than the younger children did, although their self-evaluations were not significantly different in their level of negativity. From a developmental perspective, this represents a confounding element to the study, as it is not until middle and late childhood that the notion of a real and an ideal self develops, at which point there is the capacity for negative self-evaluation and the emergence of self-critical depression (Leahy, 1995).

A further threat to the validity of this study is the way in which the level of distortion in self-evaluation was derived. The researchers took teacher evaluation to be their standard of objective reality against which children's self-evaluations were measured. Teacher reports, although a useful source of information about a child, have been shown to differ significantly from parental report and self-report (Achenbach, McConaughy, & Howell, 1987), specifically to underestimate depression and other internalizing problems in children (Hodges, Gordon, & Lennon, 1990). There is potentially a bias towards an overly positive picture of a child's abilities, thus providing an inflated measure of negative self-evaluation. There is a low rate of agreement between parents, teachers, and the child him/herself in the evaluation of problems, which presents a problem, generally in the child therapy research (Roth & Fonagy, 1996).

¹ (a) Overgeneralization of negative outcomes; (b) catastrophizing; (c) erroneously taking personal responsibility for negative outcomes; and (d) selectively attending to negative information.

The evidence to support Beck's model relating negative self-evaluation to depression derives from children over the age of eight. In fact, the notion of negative self-evaluation has limited meaning for children under this age, as evidenced by the emergence of the ability to feel proud or ashamed of the self in the absence of reference to parental evaluation at around this time (Harter, 1993). This ties in with the contention of Leahy (1995) that self-critical depression does not develop until late childhood or early adolescence.

The evidence that relates distorted cognitive styles in children with internalizing disorders (reviewed in Spence, 1994) comes from studies that have been carried out on children aged from 8 to 13 years (Seligman et al., 1984; Zatz & Chassin, 1985), and little attention has been paid to how these cognitive patterns develop through childhood. The question of causality also remains unanswered. The fact that depressed and anxious children have been shown to think in characteristic ways cannot lead to the conclusion that the cognitions cause the symptomatology. The relationship is more likely to be a circular one (Spence, 1994). This complex intertwining of cognition, behavior, and affect leads back to the question of the origins of each and the need for a developmental perspective.

In the externalizing disorders, it is hypothesized that children's psychopathology is more likely to be related to deficits rather than to distortions in cognitive processing (Kendall et al., 1990). Crick and Dodge (1994) present a model of social information processing and social adjustment that attempts to track the routes and relationships between the way children process, or fail to process, social information and their behavior in social situations. The model is an interactive and circular reformulation of a previous linear version, responding to criticism of its narrow vision (Akhtar & Bradley, 1991). The reformulated model incorporates much more of what the child brings to the process in the form of past experience constructed into schemata. Although it is represented in circular form, the processing is hypothesized to be automatic and spontaneous rather than reflective and rational. It is nonetheless represented in a number of processing steps that produce behavior but continuously feed back into the cycle. These steps are (1) encoding external and internal cues; (2) interpretation of those cues according to attributions about self and others; (3) selection of a goal; (4) consideration of possible responses; (5) selection of response; and (6) behavioral enactment. Using aggression in children as the behavioral outcome, the authors review the existing literature for evidence of children's cognitive processing deficiencies at each of the stages in their model. Examples of these are biases towards hostile cues, negative mislabeling of ambiguous cues, limited range of responses other than aggression, and inaccuracies in outcome evaluation. The evidence reviewed lends considerable support for the model, although, as with the internalizing problems, the evidence is predominantly correlational and, thus, causal direction cannot be inferred.

In the evidence from studies used to support the Crick and Dodge model, a similarity was found between the cognitive functioning of the population being studied, that is, aggressive boys predominantly between the ages of 9 and 12 years (Dodge & Crick, 1994) and the cognitive functioning of younger children (Akhtar & Bradley, 1991; Gouze, 1987). Normal development shows that children become less physically aggressive with age as cognitive development provides them with more processing and coping options. The aggressive children were described as demonstrating a developmental lag in their social perception skills. Specifically, they were found to pay more attention to situational than dispositional information, to overattribute aggression, to attribute negative intent in ambiguous situations, to struggle to generate alternative solutions to problem situations, and to take an egocentric position when evaluating the responses of others in their lack of perspective taking. There is cross-sectional evidence to support this contention, but longitudinal studies are needed to further test

whether aggressive children are functioning at an earlier developmental level in their social information processing.

Crick and Dodge (1994) acknowledge that the role of development has not been studied in any depth in relation to social information processing but can suggest no more than that there is a quantitative and qualitative progression in the acquisition of cognitive skills and processing capacity, with patterns of thinking and responding becoming more established and more resistant to change over time. However, the question of how these cognitive processes develop and why they lag behind in some children is not answered by this model.

One area of developmental theory that has influenced cognitive–behavioral theory and therapy with children is the role of language in mediating and controlling behavior. The normal development of the process of acquiring self-control was described by Luria, drawing from the theories of Vygotsky (Meichenbaum & Goodman, 1969). Self-control begins in the form of the verbal direction of the child's behavior by significant adults, then moves to the child's overt verbalization of behavioral self-control, and finally, the self-talk becomes internalized cognitions of behavioral self-control (Ronen, 1997). Self-statement modification (SSM) or self-instructional training (SIT) form part of a cognitive behavioral treatment package that was developed alongside these theories based on the hypothesis that certain childhood disorders represent a failure at some point in the development of these self-control mechanisms (Dush, Hirt, & Schroeder, 1989). Evidence for this was found in impulsive children aged between 5 and 6 years, who showed deficiencies both in the quantity and quality of self-control verbalization compared with a matched group of reflective children (Meichenbaum & Goodman, 1969). The categorization of participants along the reflection–impulsivity dimension was based on performance on the Matching Familiar Figures Test, which may not represent a measure of impulsivity in a natural setting.

In conclusion, models of human performance that have their roots in theories about adult functioning, such as depression and social information processing, have lacked a developmental focus. There is more support for a relationship between cognitive deficiencies and psychopathology in younger children than for cognitive distortions partly because there is little evidence that the relationship between cognitive distortions and psychopathology has been tested with a younger age group. An exception to this is the recent work on early onset OCD (March et al., 2001), which demonstrates the relationship between cognitive distortion and psychopathology in young children. However, the question still remains regarding the extent to which the cognitive deficits in younger children are normative but are highlighted by the demands of a model that sets out to focus only on cognitive functioning and its relationship to behavior. Longitudinal studies are required to track the process of development of cognitive skills and deficits and their impact on psychopathology. There are also noncognitive factors that must be accounted for in this relationship, most importantly, the role of emotion in mediating cognitive processing and behavioral outcome (Dodge & Crick, 1994). It is also necessary to include the influence of developmental experiences and patterns of attachment on the development of personal meanings and cognitive style (Mahoney & Nezworski, 1985).

In the light of this rather mixed picture, many researchers call for a more carefully defined relationship between the theoretical conceptualization and the application of cognitive therapies (Dush et al., 1989; Mahoney & Nezworski, 1985; Whalen, Henker, & Hinshaw, 1985). Clearly, the efficacy of therapeutic approaches based on the existing models is the current focus. It is conceivable that CBT could produce behavioral and emotional change without a preexisting cognitive deficit or distortion. However, if therapeutic improvements are demonstrably mediated by changes in cognitive processes, the underlying

theory would be substantially supported. Cognitions are considered to be central, if not causal, in behavioral and emotional problems. Attempts have been made to confirm that changes in cognitive processes have mediated therapeutic success (Durlak, Fuhrman, & Lampman, 1991; Powell & Oei, 1991; Whalen et al., 1985). Powell and Oei (1991) examined 63 studies of CBT and found only 9 that had tried to demonstrate that changes in children's cognitions were instrumental in therapeutic effectiveness. This finding seriously undermines the strength of any conclusion that can be drawn about the theoretical foundations of CBT. Significantly, the authors cite children's rapid changes in cognitive development and "the interaction of the cognitive stages with the child's ability to develop and utilize certain CBT skills" (Powell & Oei, 1991, p. 258) as one of the main obstacles to assessing and measuring the evidence they were seeking. A research study that carefully measures cognitive developmental level and uses matched control groups to account for normal development over time would allow strong conclusions to be drawn about the impact of intervention on the cognitions of the experimental group.

The findings from another study further undermine the theoretical base of CBT. In their meta-analysis of 64 well-designed outcome studies of CBT, Durlak et al. (1991) selected 33 studies that included at least one measure of cognitive change and found no significant correlation between cognitive change and behavioral change. They conclude: "the specific connection between cognitive functioning and adjustment is unclear and the underlying mechanism of change in CBT remains unknown" (p. 211). It is striking that so few studies have attempted to measure cognitive changes at all. The lack of a demonstrated relationship may be due to difficulties in assessing and measuring change in children's cognitions, but it may also be that the mechanism for change is not a cognitive one, in the manner set out in the existing theoretical model (Beidel & Turner, 1986).

5. The efficacy of CBT with young children

Problem-solving skills training, SSM, social perception skills training, self-control training techniques, and cognitive restructuring with children are the most common cognitive techniques reported in the literature and invariably used in some combination, always including behavioral techniques (Spence, 1994). A close examination of outcome studies using these techniques with children aged between five and eight would provide strong evidence in the developmental debate, although the relationship between theory and application is not clearly delineated.

Reviews and meta-analyses have failed to arrive at any definitive conclusion about the optimum combination of these different approaches with different presenting problems (e.g., depression, anxiety, impulsivity, and hyperactivity) and different population characteristics (boys and girls aged 4–18 years; Durlak et al., 1991). It is very rare to find a research study that has specifically looked at children under the age of eight. There are also methodological issues that must be taken into account when attempting to draw conclusions about the efficacy of CBT for children under 8 years of age. CBT research is often characterized as demonstrating efficacy with nonclinical samples (Hobbs, Moguin, Tyroler, & Lahey, 1980; Roth & Fonagy, 1996) over short periods of time, with narrowly specified behaviors and in laboratory settings, such as testing teacher-rated impulsive children on the matching familiar figures test in a classroom (Whalen et al., 1985). Other reviews have found a lack of adequate control groups, problems with maintenance of treatment gains over time, and generalization of treatment effects outside the setting conditions (Hobbs et al., 1980; Powell & Oei, 1991). There is often a lack of clear

specification of therapeutic activity and integrity checks (Durlak et al., 1991), which is particularly problematic given the range of strategies that come under the CBT umbrella. Finally, much of the comparative data presented as evidence of the efficacy of CBT are derived from meta-analytical reviews, which have some methodological problems to note. Although meta-analysis represents an important development in comparing the findings derived from different outcome studies, there is a danger of making comparisons between studies that are too dissimilar to be compared, for example, gathering together and drawing conclusions about studies that have used different methodologies. However, the consequence of selecting studies with comparable methodologies and treatment variables is the exclusion of a great many, with the potential loss of valuable and interesting data. This is particularly problematic in child therapy research because it is a relatively small research base (Kazdin, 1988). Conclusions drawn from meta-analyses are often very general because studies have been grouped in broad categories (e.g., all the techniques subsumed beneath the CBT umbrella). However, conclusions do represent a marked improvement on previous reviews of this body of literature (Kazdin, 1988). With these methodological considerations in mind, this section will examine the evidence for the efficacy of CBT with children under the age of eight.

SSM or SIT offers an appropriate starting point because it is based on a developmental theoretical formulation and should therefore be tailored to the capabilities of a developing target population. SSM is usually used in conjunction with other cognitive and behavioral approaches, making it difficult to draw firm conclusions about its individual efficacy. Dush et al. (1989) report on their meta-analysis of 48 outcome studies for predominantly externalizing problems, such as impulsivity, disruptive, and aggressive behavior. Results showed that when comparing SSM to placebo, the effect size is the same for children as for adults. But when comparing SSM to no treatment, the effect size with adults is much larger than for children. It is not clear why effect sizes were greater in studies with placebo conditions; the suggestion is that the placebos may have lacked credibility. However, when no-treatment and placebo outcomes were combined, the results showed that the average improvement was considerably lower than that reported for SSM used with adults, with only 15% of the reported outcomes reaching an accepted average effect size for psychotherapy in general.

Only 8% (3) of the 48 studies analyzed by Dush et al. (1989) used children under the age of eight. Of particular significance here is the finding that children of 11 years and older showed more improvement than did younger children. Amongst the younger age group, there was variation in effect size, with the few studies of children aged 5 to 7 years showing a greater effect size than did those with children aged 8 to 10 years. However, a closer analysis of three original studies of children under 8 years of age reveals two studies in which no significant gains were demonstrated as a result of SIT. The one study in which there were significant gains used a coping skills condition using calming self-talk for dental procedures (Siegal & Peterson, 1980) but included relaxation training, controlled breathing, and guided imagery in this condition, thus combining cognitive and behavioral techniques. Results indicate that this coping skills condition was equally as effective as a sensory information condition, which may have had a desensitizing effect, and both were significantly more effective in minimizing disruptive behavior than a control condition was during the dental procedure. Because of the number of different cognitive and behavioral components to both experimental conditions, it is not possible to identify the therapeutic component in this study.

The two studies that showed no gains have few similarities apart from the age range of their participants and serve to highlight some of the problems inherent in meta-analyses. One study (Cohen, Sullivan, Minde, Novak, & Helwig, 1981) refers to twenty 1-h, twice-weekly sessions of individual

‘cognitive behavior modification,’ consisting of SIT, but the behavioral element is not specified. The other study (Coats, 1979) refers to small group cognitive SIT for eight 1/2-h treatment sessions over a 2-week period. Of particular significance to the developmental issue is the first study (Cohen et al., 1981), which compares the considerably more thorough therapeutic course to methylphenidate drug treatment and a no-treatment control group of hyperactive children. None of the groups showed significant improvement, but the CBT group was found not to be spontaneously using the strategies that they had been taught. The authors suggest that these young children lack the cognitive capacity to use the treatment in the form it was presented (Cohen et al., 1981). Children in the concrete-operational stage have been found to perform better and to show greater generalization of their skills than did preoperational children on a cognitive training task using SSM. However, the cognitively less sophisticated group did demonstrate the ability to use the strategies, as evidenced by a similar posttest pattern of improvement (Schleser, Meyers, & Cohen, 1981). In this study, generalization of skills was related to the nature of the SSM training, with general self-instructions resulting in better performance than specific self-instructions did.

Given its theoretical base, SSM as a technique was expected to be sensitive to developmental factors and thus more suited to the younger age group (Dush et al., 1989). Unfortunately, given the methodological constraints of the meta-analytic approach, it is not possible to separate the differences in outcome due to age from other client variables. And thus, the effect sizes in the different age groups may be accounted for by some other factor, such as the specificity of the self-instructions, as cited above. Other client variables found to influence outcome were gender (samples containing greater numbers of girls had larger effect sizes), whether participants were referred or recruited, or therapist training and experience. There is a call for “further theory-based, controlled experimental study to elucidate the interplay of developmental level and the therapeutic process and outcome of SSM” (Dush et al., 1989, p. 104).

Other self-control techniques, such as self-monitoring, self-evaluation, and self-reinforcement, have been shown to have a positive effect on internalizing problems, the effect size increasing with the number of different treatment components (Grossman & Hughes, 1992, cited in Spence, 1994). Again, the older children in the study accounted for a larger effect size, but this was not statistically significant. These self-control techniques are integral parts of cognitive intervention packages for young people with depression, anxiety (see Spence, 1994, for a review), and problems of aggression, impulsivity, and hyperactivity (see Ronen, 1997, for a review), but their relative efficacy is not clear (Whalen et al., 1985).

As with SSM, social perception skills training has not often been tested alone, but along with a multicomponent package, making its individual contribution unclear. A number of studies of social perception skills training with children from both nonclinical and clinical populations are reported in the literature (see Urbain & Kendall, 1980, for a review), using role play, stories, and puppets to train the social perception skills of cooperation and altruism. Although some significant improvements were shown on posttreatment role-taking tests, this may have represented a practice effect, as the role-taking tests were very similar with the perspective-taking training. This represents a familiar criticism of CBT that behavioral outcome measures are so narrowly defined that they too closely resemble the therapeutic tasks and do not reflect an impact on a more central aspect of the child’s identity or sense of competence (Mahoney & Nezworski, 1985). Testing social perspective-taking in real-life situations is much more problematic and not demonstrated in these studies. A further attempt to teach social perception skills with 48 children aged 8–12 years old reported no significant differences between experimental, attention placebo, and no-treatment control groups (Milne & Spence, 1987).

Problem-solving interventions have been shown to have more positive effects generally and with younger children, e.g., Spivack and Shure's original inner-city preschoolers and 7–8 year olds (Weissberg et al., 1981). These studies were carried out on nonclinical participants in school settings, and consideration is given to the developmental appropriateness of the conceptual level of the intervention programme. However, researchers have had difficulty replicating these results (Nelson & Carson, 1988 cited in Spence, 1994). Like the other CBT techniques, social problem-solving interventions form part of multicomponent treatment packages for a range of child behavior problems. Kazdin, Siegal, and Bass (1992) have used a combination of social problem-solving skills training and parental behavioral strategies with aggressive and antisocial youngsters to good and long-lasting effect. The participants were aged between 7 and 13 years, but issues about cognitive developmental stage were not addressed, thus, no conclusion can be drawn about the interaction of cognitive factors with outcome. In fact, there was no investigation of the processes that brought about the changes in the study, and it may be that the parental behavioral strategies were the effective component in therapy.

Cognitive restructuring approaches have been widely tested for their effectiveness with adults, but not with children. Those few studies that are reported fail to produce any convincing evidence for the effectiveness of restructuring maladaptive cognitions over control and waiting list groups for 8- to 12-year-olds (Liddle & Spence, 1990; Target & Fonagy, 1996).

All the evidence presented so far fail to allow strong conclusions to be drawn from a developmental perspective: first, because age or developmental level is not a client variable that has been singled out for analysis and, second, because of the variety of techniques selectively combined and collectively called CBT. An alternative meta-analysis has set out to address these two points (Durlak et al., 1991). This study used clearly defined inclusion and exclusion criteria, published and unpublished studies (to test for publication bias), and rigorous meta-analytic methodology that included a conservative estimate of treatment gains.

Sixty-four studies were included in the analysis. Of these, 65.6% concerned externalizing behavior, 17.3% internalizing, and the rest were a mixture of presenting problems. It is important to note that only approximately 37% of children included in all the studies displayed symptomatology considered to be clinically significant. The average treatment length was 9.6 hours or 12 sessions, and three quarters of the studies used more than one type of CBT strategy. Typically, the studies concerned 9-year-old boys with behavior problems. Using a set of six criteria for sound experimental design (sample size, random allocation of participants to groups, low dropout rates, normed or blind rated behavioral outcome measure, attention placebo control, and reporting all pre–posttest measures) over half the studies met all or nearly all the criteria.

To look at the interaction between cognitive developmental level and treatment effect size, studies considered by Durlak et al. (1991) were grouped according to the Piagetian developmental stage of the children treated; however, this was only judged on age. The effect size for children aged between 11 and 13 (Piaget's formal operational stage) was nearly twice of that for children in the concrete operational and preoperational stages. This supports the previous finding with SSM (Dush et al., 1989), and the authors concluded that cognitive developmental level mediates outcome in CBT. No other variable was found to mediate outcome, including the different treatment components and methodological differences in the studies. Also of significance to this paper is the finding that the preoperational group (5–7 years) did not differ in effect size from the concrete operational group (7–11 years). As with the work on SSM (Dush et al., 1989), speculation is offered about how cognitive developmental processes are interacting with therapeutic techniques. A suggestion here is that preoperational children are learning cognitive

mediating strategies for the first time (i.e., addressing deficits), while older children are having to modify existing strategies (i.e., addressing distortions). If this is the case, the oldest group (11- to 13-year-olds) is cognitively better equipped to modify their distortions, perhaps because of their more sophisticated reasoning ability and greater motivation to introspect.

To summarize, children of 11 years and over benefit more from the range of techniques known as CBT than those aged 5–11. Cognitive developmental level is clearly crucial in the success of the therapy, but the relative extent and the detail of the interaction between the child's cognitive capacity, sophistication, and style and the cognitive and behavioral strategies used remains unclear.

6. Attempts to integrate cognitive developmental level into CBT

Contemporary cognitive therapists have responded to the criticism that CBT has failed to recognize the mediating role of developmental level in the success of CBT, with the argument that young children are constantly learning skills and knowledge and are therefore quite able to learn the lessons CBT has to offer and benefit from its use (DiGiuseppe, 1989; Ronen, 1992). It is suggested that treatment goals and concepts be modified to use less complex, verbally based techniques that examine irrationality and more concrete picture and story-based representations of the therapeutic task. In addition, they should emphasize more behaviorally active learning and the use of imaginary mnemonic aids in the process of addressing cognitive deficits and distortions (DiGiuseppe, 1989). An example of these modifications is the translation of the concept of a “mediated thought” into “a command or order the brain sends the body” Ronen (1992, p. 24). Similarly, Leahy (1988) suggests using the “Bad Thought Monster” and the “Smart Thought Man/Woman” to represent illogical and logical thoughts, then to get them to fight each other with the help of a “Zen Warrior,” who has the power to challenge illogical thinking.

Real-life demonstration and metaphors are recommended in the process of teaching young children cognitive skills to control and manage their problematic behavior. In two separate case studies, examples of these modifications are provided in the successful treatment of encopresis in a 6-year-old boy and night terrors in an 8-year-old girl (Ronen, 1993a, 1993b). Both case studies use AB designs, in which B represents an intervention made up of behavior management and a number of different cognitive techniques (cognitive restructuring and self-control strategies) with the child and with the parents. Unfortunately, it is impossible to identify which elements in the intervention were responsible for the changes or if, in fact, some other factor, such as the passage of time or therapist characteristics, brought about the changes. No attempt was made to assess whether cognitive changes were associated with the behavioral changes.

Knell and Moore (1991) report another example of the application of a CBT approach to working with a young child that takes account of some developmental issues in the literature. The introduction of play into the cognitive-behavioral approach is seen as an effective means of communicating with young children and modifying a therapeutic approach that was originally intended for adults. A single case of a 5-year-old with primary functional nonretentive encopresis is described. Play is used to introduce the identification and modification of the irrational belief that the child will fall down the toilet and the introduction of positive self-statements regarding toilet use. Behavioral techniques of shaping, exposure, response prevention, and positive reinforcement are used vicariously, initially, through modeling with a teddy bear and, later, in vivo. After as many as 15 therapy sessions, success is achieved in regular toilet use, and there are no further episodes of soiling. Again, it is not possible to identify which aspects of the

treatment package accounted for the success of the treatment and no attempt is made to assess or systematically measure whether any cognitive shift occurred alongside the behavioral changes. As with the previous examples (Ronen, 1993a, 1993b), the authors argue strongly for the use of CBT with younger children and offer creative means of applying the traditional model in a developmentally sensitive way. However, the evidence from two uncontrolled case studies does not provide empirically sound evidence connecting treatment success with the cognitive techniques. Although Ronen clearly accepts that rational argument cannot be used to challenge and change a 6-year-old child's belief system, she still retains the rationalist model underpinning her modified therapeutic approach; that is, the child's irrational thoughts lead to the problematic behavior.

7. Conclusions about the efficacy and developmental appropriateness of CBT with young children

Theoretical models underpinning CBT with children fall into two groups: the cognitive deficit and the cognitive distortion models. The latter has not considered developmental issues, being derived from adult theories. The former group has paid some attention to the normal development of cognitive skills and has consequently produced applications that are more successful with children. However, it remains unclear how these deficits develop over time, what relationship they have to the individual's learning history, whether they represent a lag in development, or whether some other influence, such as emotion or motivation, is involved in their acquisition and use. Without longitudinal data or more complex theoretical models, little can be said about the relationship between cognitive deficits and psychopathology.

With regard to the efficacy of CBT, the evidence presented points to a number of conclusions. Generally, very few studies have been carried out using preoperational children. Where younger children have been included in studies or specifically targeted by researchers, there is evidence that they do less well than older children and adolescents do.

There is strong evidence that age and, by implication, cognitive developmental level play a central mediating role in the efficacy of CBT. However, there is little support for cognitive shift being the mechanism for behavioral change in the evidence presented so far. These two statements would seem to be at odds with each other. There are at least two possible explanations for these findings: first, that the inability to demonstrate the relationship between cognitive change and therapeutic outcome is due to a lack of sophistication in the assessment and measurement of cognitive function and change in children, or a failure to measure it at all, and second, that the process of change in the current models of CBT is behavioral and not cognitive (Mahoney & Nezworski, 1985). The substitution of adaptive for maladaptive self-statements by rote learning, for example, is not fundamentally different from a behavioral intervention based on verbal prompts for learned behaviors without the requirement of cognitive processing (Beidel & Turner, 1986). If the mechanism for change in current CBT approaches is more behavioral than cognitive, this indicates an underlying assumption that human learning is a linear construct. This was one of the fundamental criticisms of behavior therapy and part of the impetus for its evolution into CBT (Mahoney & Nezworski, 1985). However, there is evidence that the models underpinning CBT are moving towards more circular and complex representations of human learning (Crick & Dodge, 1994).

Finally, there is much support for CBT research to look to advances in developmental psychology and to include emotional and social factors in models of the self-organization of the brain and its behavioral

output. Assessment and intervention need to take account of the influence of developmental experiences and patterns of attachment on personal meanings and cognitive style alongside producing lasting change in the reciprocal processes of cognition, affect, behavior, and identity. Recent modifications of CBT go some way to incorporating developmental considerations in their application but still hold on to the rationalist paradigm of the original adult model, thus making these modifications seem, post hoc, poorly explored and insufficiently incorporated into the underlying theoretical base.

8. An alternative approach?

Psychodynamic or client-centered play therapy approaches to working with young children have models that are based on developmental theories, and these may offer viable alternatives to CBT for this age group. These approaches are reported to be more widely practiced than behavioral and cognitive behavioral treatments (Target & Fonagy, 1996), and there is much anecdotal evidence of their positive impact on children and adolescents. However, drawing conclusions about the efficacy of psychotherapeutic approaches is hampered by the considerably greater lack of sound empirical evidence compared with behavioral and cognitive-behavioral treatments. A review of 43 studies of individual nonbehavioral child and adolescent psychotherapy carried out since 1963 (Barnett, Docherty, & Frommelt, 1991) found no study that met their four minimum standards for sound research. These were (1) the specification of inclusion and exclusion criteria, (2) precise description of the nature of the therapy and therapist, (3) adequate matching procedures and control groups, and (4) valid assessment and outcome measures. In fact, over half the studies did not meet any of the four criteria.

There are indications of paradigmatic shifts in cognitive theory and therapy that may achieve the goal of a cognitive therapeutic approach that is accessible to children, goal directed, time limited, and empirically testable. Recently, a narrative paradigm has started to inform the development of new cognitive methodologies (Goncalves, 1994). Alongside this are a number of other significant and associated changes of philosophy, emphasis, and methodology: a movement away from a rationalist towards a constructivist approach to understanding human experience (Mahoney, 1991), a widening of focus from solely cognitive processes to include emotional experience in functioning (Safran & Greenberg, 1988), and a movement from logical to analogic methodologies (Goncalves & Craine, 1990). Using a narrative rather than a rationalist paradigm offers solutions to the developmental barriers to CBT with young children. In a story, abstract concepts, such as causal mediators, can be given concrete form, and introspection can take place externally. Reasoning can be demonstrated using creative and engaging analogy and metaphor. Egocentrism becomes a therapeutic advantage, with the child's story representing a projection of his own thoughts, beliefs, and self-representation. The fuzzy divide between fact and fantasy becomes a springboard, bouncing the therapist and the child into scenarios bound only by the limits of their imagination. Behavioral enactment takes place in dramatic form. The limitations of domain-specific knowledge, memory, and motivation are easily overcome with an interesting and exciting story using the child's protagonists, settings, and storylines (Friedberg, 1994).

Although this has been described as a paradigmatic shift in the theory underpinning cognitive therapy, it does not mean dispensing with the established cognitive behavioral techniques. Indeed, it is possible to reframe many familiar strategies within a narrative, constructivist model (Meichenbaum, 1995). The concept of information processing, with its associated computer terminology, such as encoding, storage,

and retrieval, is a metaphor that is widely used. It may be a very apt metaphor for a computer-literate 7-year-old, more apt than for a computer-phobic 57-year-old! Meichenbaum (1995) explains the notion of constructive narrative as the ultimate therapeutic metaphor. Clients in therapy are the architects and builders of their personal realities and can be helped to design and build new models for representing meaning and reality. The challenge to cognitive–behavior therapists is to find the appropriate metaphor for the developmental level of the child and to build a therapeutic narrative around it. The attempts at the integration of developmental level into CBT, cited earlier (DiGiuseppe, 1989; Leahy, 1988; Ronen, 1992), could be understood from a narrative point of view. The use of the metaphors of the brain as an army general and a Zen warrior as challenger of illogical thinking may have been the active ingredients in therapeutic change. Indeed, a narrative paradigm is used in the treatment of obsessive-compulsive disorder with a cognitive behavioral package (March & Mulle, 1998). The child engages in a battle to “run OCD off my land,” and the OCD is conceptualized as a comic monster. Although there is evidence for the overall efficacy of this treatment package, there is a need for component analysis to test the relative potency of the predominantly behavioral elements against this cognitive element, both in the reduction of symptoms and in the attractiveness and acceptability of the treatment. As yet, the use and efficacy of the narrative approach in CBT with children is untested (Friedberg, 1994; Russell & van den Broek, 1988).

In summary, young children can demonstrate the cognitive capacity to benefit from creatively delivered forms of CBT. The challenge is to continue to integrate cognitive, social, and emotional developmental theories into cognitive behavioral theory, and creative methodologies, such as the use of narrative and analogy, into CBT with young children. High-quality evaluations, which focus on the specific limitations and effective methodologies for optimum therapeutic gain in young children, continue to be vital to progression in this field.

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