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TREATMENT OF CHILDHOOD ANXIETY: DEVELOPMENTAL ASPECTS

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ABSTRACT. *This review focuses on research on the cognitive-behavioral treatment of childhood anxiety disorders. Early forms of therapy for childhood anxiety were borrowed from adult treatment models. More recently, there has been a recognition of the need to design treatment from a child-based perspective. Consequently, several cognitive-behavioral programs designed specifically for children and youth have been both developed and evaluated. The importance of parental involvement has also been recognised in these treatment innovations. However, a number of developmental factors have yet to be given adequate consideration in both the research and practice of childhood anxiety treatment. The article highlights some of these factors including issues of individual, family and cultural variation.* © *2000 Elsevier Science Ltd.*

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BRIEF OVERVIEW OF CHILDHOOD ANXIETY TREATMENT

TREATMENT OF CHILDHOOD and adolescent anxiety has garnered increasing attention over the last decade. For the majority of children, anxiety is a common, functional, and transitory experience (Last, Perrin, Hersen, & Kazdin, 1996), the nature and intensity of which varies, at least in part, according to the child's developmental stage. For example, young children often experience anxiety when separated from main attachment figures or if exposed to dark, unfamiliar places. In comparison, the anxieties expressed by adolescents relate more commonly to social identification and interpersonal issues. Unfortunately, for a large proportion of children and adolescents, anxiety may increase in intensity, becoming chronic and developmentally dysfunctional. For these young people and their families, normal daily activities are usually disturbed and anxiety becomes a pervasive, intrusive problem requiring clinical intervention (Messer & Beidel, 1994). This is reflected in the fact that anxiety disor-

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ders are the most prevalent type of psychological disorder experienced by children and teenagers (Albano, Chorpita, & Barlow, 1996; Bernstein & Borchardt, 1991).

Of further relevance to the present discussion is the observation that for those children and adolescents who experience chronic anxiety, but remain untreated, the prognosis is significantly poorer (Dadds, Barrett, & Cobham, 1997). Keller et al. (1992) assessed past and present psychopathology in 725 children and adolescents aged 6 to 19 years who were recruited in order to study the effects of parental affective illness on children. Fourteen percent of the children were found to have a history of an anxiety disorder, and of these children, only 34% were free of an anxiety diagnosis at the assessment period. The average duration of the disorder at the time of assessment was reported as 4 years. Other research noted that children with an anxiety disorder were still likely to fulfil diagnostic criteria up to 8 years after the onset of the disorder (Kovacs & Devlin, 1998). There is some indication, then, that childhood disorders may be more chronic and enduring than initially thought.

Initial approaches to the treatment of childhood anxiety used elements and processes from adult treatment models, derived from adult-based theories, with terminology adapted for a youth population. In this regard, the childhood anxiety field is not unlike many others in clinical child psychology that have been built on the foundations of adult treatment paradigms. More recently, however, there has been a growing recognition of the need to consider developmental factors as they relate to the etiology, assessment, and treatment of various childhood disorders. Given the potential for anxiety problems to occur across the lifespan, as well as the established links between childhood anxiety disorders and psychological disorder later in life (Kovacs & Devlin, 1998), the application of a developmental perspective in the treatment of childhood anxiety seems warranted.

The impact of developmental factors is further mediated by the cultural context and background of the family and society to which the young person belongs. One illustration is the observation that Portuguese children, from a nonclinical population, report more fears on average than do English children (Fonseca, Yule, & Erol, 1994). Moreover, a perusal of Portuguese research on parent–child relationships indicates that it is culturally appropriate for children as old as 7 years to sleep in their parents' bedroom; a custom that would find less favour within Anglo-Saxon-based cultures. It has been argued that a major failing of current clinical research is its dependence upon a culturally narrow (western, middle-class) definition of psychopathology and mental health (Kaslow & Thompson, 1998). A careful examination of practices in countries of non-English-speaking background would likely lead to a re-think of our culturally bound definitions of what is developmentally appropriate and what warrants clinical intervention.

The aim of the current discussion, then, is more specifically to examine the relevance of developmental factors to the treatment of childhood anxiety, and in so doing, to argue for their consideration and inclusion in future clinical research and practice. A brief review of treatment literature currently existing in the child and adolescent anxiety field is included, as is a discussion of various, developmental issues related to treatment design and implementation.

Historical Perspectives

Historically, literature addressing the treatment of anxiety in children has been scarce. At the beginning of the century some individual case studies that employed

traditional psychodynamic frameworks were reported. However, descriptions of treatment components were vague and studies lacked procedures for evaluating clinical effectiveness. Specific fear acquisition by children was dealt with by the early behavioral schools, who mainly described proposed conditioning mechanisms and their relation to the formation of anxiety responses. Relatively little attention was allocated to the treatment of anxiety problems in children, as these were considered rare in comparison to the externalising problems which were more salient and disruptive for families and educators. Hence, as recently as 20 years ago, research regarding the treatment of childhood anxiety consisted of a handful of single case studies examining specific fears (Dadds et al., 1997).

Only two developmental, theoretical models have been proposed to explain shy, fearful, and withdrawn behaviours in very young children; behaviours that have been implicated in the onset of anxiety problems at a later stage (Fox & Calkins, 1993; Gest, 1997). These are: the attachment model, based on early mother-infant relationships (Bowlby, 1973); and the behavioral inhibition model, emphasising temperamental factors (Kagan & Snidman, 1991). The implications of temperament and attachment for treatment of anxiety across the lifespan seem to present a clear argument for these as future foci of attention. Indeed, considering the vast body of successful research that has been done to empirically validate the previously mentioned models, it is puzzling that relatively few treatment studies have focused on developing and evaluating early interventions—whereby early is defined as early in the child's life—which target the specific mechanisms/deficits proposed by these theoretical models.

General Developmental Issues

Recently, standardised clinical interventions for childhood anxiety have been developed mainly from the cognitive-behavioral models pertaining to adult anxiety (Ollendick & King, 1998). These models are traditionally "downloaded" on to children with the misleading assumptions that: (a) children are little adults, (b) children at all stages of development will be catered for with a single treatment approach, and (c) all children respond equally to treatment, independently of cultural background. Consequently, the reliance on such assumptions as a basis for research and practice presents a number of issues for the assessment and treatment of childhood anxiety.

One concern is that by regarding children as "little adults," we run the risk of not adjusting our vocabulary to the child's level of comprehension, and of failing to avoid the use of jargonistic psychological wording. Protocols are typically written as if to communicate with adult clients or even fellow psychologists. A further concern is the dependence upon intrapsychic, medical models of treatment that are applicable to adult patients, seen in isolation in clinic rooms, but are arguably not so relevant to the child or adolescent client. As children are heavily dependent upon their immediate family and peer environment, a better model of treatment would be one founded on theories of child and youth anxiety, which includes interpersonal factors (e.g., Family Coercive Model for Conduct Disorders; Patterson, 1986), and which aims to implement interventions at social, rather than individual levels.

With respect to the second assumption previously mentioned (universal interventions employed with disregard for a child's age), the main problems seem to reside with a lack of awareness of what the field of developmental psychology has extensively researched such as the presence of definite developmental stages in cognitive capabilities and social/behavioral skills. As far as can be ascertained, present cognitive-behav-

ioral assessment and intervention protocols seem to assume that children of all ages are capable of metacognition (i.e., can "think about what they think"), that they are able to understand self and other's emotional states and that they can learn to self-regulate their own behaviour. We know from the developmental literature that these abilities are usually only fully developed in late childhood. What is possible is that very skilled clinicians may be able to help children acquire some of these necessary skills in order to overcome anxiety. However, doubt must be raised about treatment effectiveness and generalisation effects in hospital and community settings, where novice clinicians may be delivering interventions to multi-problem families.

Lastly, to address the final assumption described earlier, researchers and clinicians must become less "Anglo-centric" and in so doing, develop awareness of the cross-cultural limitations of their assessments and interventions. Concepts of normality vary greatly across cultures, and our practises ought to develop awareness of specific, culturally bound family practices and parental expectations. To date, research has not investigated the cultural robustness of clinical interventions for childhood anxiety. Clearly, however, cultural context is crucial to the successful implementation of any clinical intervention, and to the maintenance of treatment gains.

DEVELOPMENTAL GUIDELINES FOR TREATMENT

The call to acknowledge developmental issues in the conceptualisation of childhood psychological disorder is not a new thing (Treadwell, Flannery-Schroeder, & Kendall, 1995). However, the impact of this recognition has been slow to filter down to the treatment literature. An appreciation of general patterns of development can provide important direction for the design and implementation of childhood anxiety treatment. Examination of these patterns gives insight into potential vulnerabilities, limitations, and windows of opportunity that exist as a function of developmental stage.

It is now recognised that the antecedents of anxiety are evident from birth. Temperamental factors, such as the characteristics of behavioral inhibition previously outlined, are thought to bear the risk of future anxiety problems. When these temperamental factors are placed in a context of insecure attachment to the primary caregiver, this risk is heightened (Fox & Calkins, 1993). Clearly, any intervention that is to occur at this stage would need to be geared primarily towards parents and major parental support systems (e.g., grandparents, relevant community services). Such programs should, for example, present specific strategies that help caregivers promote the positive exposure of behaviorally inhibited, sensitive, young children to a variety of social interactions, as well as facilitate the acquisition of skills pertinent to the development of healthy child/caregiver attachment patterns. In light of the research linking the maintenance of childhood anxiety to family interaction variables, and given the growing emphasis on preventative treatment models (Spence, 1994), this type of intervention would certainly seem valid.

However, the feasibility of mounting an intervention protocol at this early time point presents a number of possible, practical issues. These include the costs and time involved in assessment and recruitment, as well as the challenge of trying to devise a program that is relevant to parents and thus able to compete for commitment with the many demands of early parenthood. Moreover, infancy-based intervention may often prove redundant, as we know that many children who demonstrate behavioral inhibition do not necessarily develop anxiety disorders. Indeed, to imply to families that

a sure relationship exists between the two phenomena may lead to an expectation or priming for problems that do not exist.

It is important here to note that many forms of anxiety experienced in childhood are in fact adaptive and necessary for normal development. Spence (1994) states that part of children's development is the acquisition of control over their fears. This includes learning to discriminate dangerous from nondangerous situations or stimuli, thereby learning when it is appropriate to be afraid and to avoid; developing appropriate avoidance procedures to deal effectively with threatening stimuli; and, learning to cope with aversive situations that may be necessary or unavoidable. The accumulation of these skills is vital for the development of normal, everyday functioning in human beings. As is recognised by any diagnostic system, anxiety ceases to be adaptive when it is out of proportion to the threat posed and when it significantly interferes with, rather than aids, normal activities.

During early childhood, problem anxiety is more commonly manifested as fear of separation from a familiar caregiver or environment, or as a fear of objects either real or imagined (Bowlby, 1973). Because of the limitations in their cognitive development, young children typically express their anxiety through behaviour. Working at a cognitive level with children of this age is likely to be of minimal benefit, or certainly less successful than with older age groups. The most logical starting point for designing treatment of early childhood anxiety would seem, therefore, to be the application of a behavioral approach—but one that also includes a strong familial focus, for the role of early attachment figures in the young child's life remains a crucial one. However, the validity of this approach remains untested because, as has been mentioned earlier in this discussion, to the present time relatively little attention has been paid to early childhood interventions for anxiety.

Most childhood anxiety treatments currently available are designed for children in middle childhood (Dadds et al., 1997). This reflects the fact that by this stage of development, children are better able to voice their fears. Furthermore, the problem behaviours exhibited by children of this age begin to impact significantly beyond the family sphere (e.g., at school, with peers), such that they are open to the attention of a variety of carers and observers. One consequence of these 'revelations' is that most childhood anxiety disorders are diagnosed during the middle childhood period. The influence of cognitive processes begins to emerge strongly in middle childhood as children gain greater access to their own thoughts and emotions. Fears during this period tend to be more generalised than in earlier childhood, and a growing awareness of others' thoughts and motivations leads to the beginnings of socially based concerns.

With regards to treatment, the predominance of protocols designed for this age group suggests that it is an optimal target for intervention. Certainly there a practical benefits to working with those in middle childhood, as opposed to adolescents for example. Primary-school children tend to be more amenable to treatment; it is usually easier to engage their parents; and school- or community-based interventions are more easily implemented. Yet, as the next section will show, even in this comparatively well-researched age stratum, new and arguably better approaches to anxiety treatment are still being proposed. Cognitive behavioral techniques have been found effective (Kendall, 1994), and the inclusion of a parental component has been demonstrated to add to this effectiveness (Barrett, Dadds, & Rapee, 1996) whilst the value of school- and peer-based interventions has yet to be evaluated. Hence, the refinement of anxiety treatments directed at middle childhood is by no means complete.

Compared with middle childhood, treatments designed specifically for adolescents are sparse. This is in spite of the fact that adolescence is a period of particular vulner-

ability to anxiety and comorbid disorders (Kazdin, 1995). During this period of development, young people become more capable of abstract cognitive reasoning, the peer group replaces the family as the dominant sphere of influence, and interpersonal issues become paramount. The impact of these developments can be seen in the types of fears reported by adolescents: fear of negative evaluation, fear about the future, and anxiety about existential and broader social issues. Furthermore, the patterns of anxious and avoidant behaviour that are established in adolescence serve as powerful precursors to adult anxiety. Herein lies perhaps one of the greatest difficulties associated with treatment of anxiety during adolescence: do we treat adolescents as older children or as adults? This difficulty is compounded by the reluctance of teenagers to report their problem anxiety for the very reason that it may expose them to negative evaluation from peers. Yet it is important that researchers and clinicians endeavour to overcome these obstacles, as there is a marked need for anxiety treatment programs aimed at this age group. The elevated risk of comorbid depression and substance abuse that exists within adolescence only adds to the urgency. Given the significance of the peer-group and social environment at this stage of development, the employment of interventions that work through these mediums may be a good strategy. One adolescent anxiety-treatment protocol has been designed to respond to the need for programs in this area (Barrett, Lowry-Webster, & Holmes, 1998), but a controlled evaluation of its effectiveness is still pending.

In short, the qualitative differences between child and adult anxiety are now commonly acknowledged, with the result that those involved in treatment design and application have recognised the desirability of child-focused approaches. Less recognised, or at least less acted upon, however, have been the developmental variations associated with different levels of 'childhood'. The utility of applying a similar treatment template to children and youth of all ages is arguably as ineffectual as employing a blanket, adult-based approach. The adaptation and shaping of treatment protocols for various age stratas should, therefore, be a continuing process. The next section presents a brief review of studies that have evaluated currently available treatments for childhood anxiety. Later discussion relates specifically to how these studies have addressed, or failed to address, some major developmental issues.

TREATMENT OF GENERALISED ANXIETY

The few randomised controlled studies in the area of childhood anxiety have mainly evaluated a variety of cognitive behavioral techniques (CBT). Particular attention has been directed towards psychological education about the nature of anxiety, cognitive restructuring, and behavioral exposure (Albano & Barlow, 1996; Kendall, 1994; Ollendick & King, 1994).

In a recent review of studies, Ollendick and King (1998) examined the relative effectiveness of a variety of behavioral and cognitive-behavioral techniques in the treatment of children with phobic and anxiety disorders. Their decision to concentrate on these methods was based on the conclusion of earlier reviewers (Weisz, Weiss, Alicke, & Klotz, 1987; Weisz, Weiss, Han, Granger, & Morton, 1995), that behavioral treatments were more effective than nonbehavioral treatments, regardless of client age, therapist experience, or treated problem. The techniques evaluated in the Ollendick and King review comprised systematic desensitisation, modelling, contingency management, and combined cognitive-behavioral procedures. With regards the treatment of fears and spe-

cific phobias, most of those techniques examined (apart from emotive imagery) were considered "probably efficacious," with participant modelling and reinforced practice deemed to be particularly well supported. However, the authors observed that the methods of intervention applied in the treatment of anxiety disorders have been less varied. More specifically, all of the between-group design studies conducted to date have employed a cognitive-behavioral framework.

Kendall (1994) examined the effectiveness of a 16-session cognitive-behavioral therapy program for children with overanxious, separation, or social anxiety problems. The main focus of treatment was the child's development of a "FEAR" plan: F, for feeling good by learning to relax; E, for expecting good versus bad things to happen, using positive self-talk; A, for approaching actions to take in the face of fear; and R, for rewarding oneself for efforts to overcome fear or worry. The results showed that at the end of treatment 64% of treated children, compared with 5% of the waitlist control group, did not meet diagnostic criteria for an anxiety disorder. These clinically significant gains were maintained at 12 months and 3 years follow-up (Kendall & Southam-Gerow, 1996). This pioneer, randomised treatment trial was effective in helping children with anxiety disorders but did not address the role of the family nor did it provide any direct guidance for parents.

Seeking to evaluate the family's role in the treatment of childhood anxiety, Barrett et al. (1996) conducted an intervention with children ($n = 79$) aged 7–14 years who fulfilled the diagnostic criteria for separation anxiety, overanxious disorder, or social phobia. The children were then randomly allocated to three treatment conditions; cognitive behavioral therapy (CBT), CBT plus family management (CBT + FAM), and waiting list. The effectiveness of the interventions was evaluated at post-treatment and at 6 and 12 months follow-up. The results at 12-month follow-up indicated that 70.3% of the children in the CBT group and 95.6% of the children in the CBT + FAM group no longer met diagnostic criteria. Comparisons between children on self-report measures and clinician ratings indicated that added benefits were derived from the CBT + FAM treatment condition, including lower fear scores than both the CBT-only and waitlist groups, and lower internalising and externalising scores than the CBT-only group. The results of this study suggest that the family plays an important role in the maintenance and treatment of anxiety disorders in children. These findings are in need of replication, however, if the inclusion of family elements in treatment is to become established. In addition, more long-term follow-up must be implemented to confirm maintenance effects. If these findings are replicated, the CBT + FAM model may be useful in guiding prevention programs for those children at risk for the development of anxiety disorders.

More recently, another program has incorporated effective parenting skills, as well as peer group activities, in ecologically natural settings (FRIENDS program; Barrett et al., 1998). The specific skills covered in this program include: (1) identification of body cues related to physiological arousal, (2) relaxation techniques and engagement in self-rewarding activities, (3) identification of unhelpful thoughts and replacement of these with more helpful, positive thoughts, (4) problem-solving skills, (5) use of a step plan with gradual exposure to a feared situation, (5) self-reward of success and partial success, and (6) ongoing , long-term practice in natural settings (e.g., school). The parenting skills component of this intervention involves reinforcement of children's brave approaching behaviours; ignoring of complaints; family cognitive restructuring exercises; the use of family quality/fun time as reward for partial success; modelling of positive problem-solving skills; and partner support training. Furthermore, recent up-

dates of the treatment protocol emphasise the importance of peer learning, of family-supportive social networks, and of parental encouragement and facilitation of children's ability to form and maintain friendships (FRIENDS Program; Barrett et al., 1998).

The literature outlined above illustrates, that in the past 5 years individualised CBT treatments for childhood anxiety have been extended to include peer learning (via group and school interventions) and family treatment models (via partner support training, child management training, anxiety management skills training and family cognitive techniques). All of the techniques described have arisen from important earlier work on the changing of children's self-talk and maladaptive cognitions (Meichenbaum, 1977; Meichenbaum & Goodman, 1971); on the importance of positive modelling in exposure exercises (Bandura & Menlove, 1968); and on the clinical applications of reciprocal inhibition and systematic desensitisation (Wolpe, 1958).

The effectiveness of cognitive-behavioral treatments (individual, family, and group) for childhood anxiety has been demonstrated up to 4-year follow-up, for children aged 7–14 years (Barrett, 1998; Barrett et al., 1996; Kendall, 1994). However, the fact that comorbidity of anxiety disorders is very high amongst children (Rapee, Barrett, Dadds, & Evans, 1994) means that it is not known which aspects of treatment are most effective for which particular disorder. Moreover, whilst it appears that cognitive-behavioral therapy is an effective form of intervention for childhood anxiety disorders, comparison with other, or combined treatments is necessary in order for CBT to become a well-established treatment mode.

TREATMENT OF SPECIFIC ANXIETY DISORDERS

In spite of the difficulties with comorbidity, some studies have applied cognitive-behavioral principles to the treatment of specific anxiety disorders, using the primary diagnosis as their target in most cases.

Obsessive-Compulsive Disorder

Unfortunately, little is known with respect to treatment of childhood obsessive-compulsive disorder (OCD), which is currently considered a form of anxiety disorder in both children and adults. Some single cases studies and noncontrolled trials have been published, but to date only one systematic assessment or treatment protocol has been evaluated (March, Mulle, & Herbel, 1994). In the most recent randomised, clinical trial of childhood OCD treatment available, three main comparisons were evaluated: (1) cognitive behaviour therapy (CBT; exposure and response prevention) was compared to anxiety management training (AMT); (2) a daily/intensive course of CBT was compared to a weekly/standard schedule; and, (3) CBT alone was compared to CBT plus medication (Franklin et al., 1998). Due to the small size of the sample (14 children, aged 10–17 years), conclusions made about the relative merit of each of the approaches described above must be interpreted with caution. The study found that for all participants who received CBT, the mean ratings of OCD symptomatology had reduced by 67% at post-treatment, and by 62% at 9-month follow-up. Results from the study tended to indicate that exposure and response prevention were the key ingredients of therapy, with neither of the added components of medication or anxiety management adding advantage to CBT alone. Furthermore, standard weekly sessions were found to be as effective as intensive daily sessions. About this finding the authors

themselves speculate that intensive, daily sessions may be of most benefit to severe cases of OCD, whereas all cases involved in their study were of moderate severity. Further randomised-controlled studies of childhood OCD treatment, which involve a larger number of participants of various ages, are sorely needed.

There are many developmental issues yet to be addressed by the childhood OCD literature. In terms of the components of childhood OCD treatment, those presently described seem to use cognitive-behavioral techniques parallel to the ones developed for OCD in adults (Salkovskis, 1996). Once again, there operates the misleading assumption that the mechanisms of change for children and adults are automatically alike. As with other forms of anxiety disorders in children, no theoretical framework has been developed as yet to explain the aetiology and maintenance of this severe disorder, nor have the common and distinct features of childhood OCD in relation to other forms of childhood anxiety disorders been investigated. In conclusion, clinicians and researchers appear generally unclear about the nature of childhood OCD; sometimes conceptualised as a more serious anxiety problem—at the extreme end of the anxiety spectrum—and at other times considered a markedly different phenomenon.

School Refusal

With regards to treatment of "school refusal" children, who often present with anxiety problems, King et al. (1998), developed and evaluated the efficacy of a 4-week cognitive-behavioral treatment involving children, teachers, and parents. Outcome measures indicated that relative to wait-list controls, children in the active condition improved in school attendance, emotional coping, reports of fear and anxiety, and clinician ratings of global functioning. Parent and teacher reports on children's behaviour corroborated the improvements, both at post-treatment and at 3-month follow-up.

Another randomised study (Last, Hansen, & Franco, 1998), this time helping children and adolescents with social phobia and school refusal ($n = 56$), showed that educational/supportive group treatment measures were as effective as standard group CBT treatments at post-treatment and follow-up. Parents and children were involved in pre- and post-assessment, but only children participated in treatment sessions. Outcome measures included self-reported anxiety and depression, diagnostic status (60–70% children were diagnosis-free at post-treatment) and school attendance rates (Last et al., 1998).

Other recent research with childhood social phobia (27 children aged 7–14 years) suggests that these children tend to have expectations of poor performance in socially evaluative situations. In addition, they typically demonstrate anticipation of negative outcomes from such situations, and poor self-appraisal of performance (Spence, Donovan, & Brechman-Toussant, in press). This valuable study, investigating cognitive and interpersonal characteristics of children with social phobia, indicates specific deficits that should be addressed when clinicians design and evaluate future treatment programs for this disorder.

In summary, all of the treatment studies described here have highlighted the need for research that is child-directed, and which takes account of the many unique developmental aspects involved in the etiology, maintenance, and treatment of childhood anxiety. Overall, results from the studies described above seem to indicate that individual or group treatments for different forms of childhood anxiety disorders are equally effective. Most importantly, however, the very few treatments that have included a parental component appear to have added to the short and long term effectiveness of treatment. The role and impact of family and peers, so significant during childhood, would thus appear a logical area of investigation for future research in the field.

ISSUES OF INDIVIDUAL DIFFERENCE IN TREATMENT

Although most of the focus until this point has been on global comparisons, clinicians are well aware that individual differences play a large role in treatment outcome. Whilst every child and family experiences life stressors, it is clear that not all children develop disorders. A greater understanding of the influence of life events and prior functioning on the development of severe anxiety problems is thus essential. It is suspected that multiple factors (i.e., risk factors) may operate to increase the likelihood of dysfunction occurring, and that various other factors (i.e., protective factors) may serve to lessen the impact. One variable, that could likely be classified as a factor of both risk and protection, is the existence of past or present psychopathology within the family. Links between parental psychopathology and problems of adjustment in children have been shown in various studies. One of the connections already recognised, is that children referred clinically for anxiety disorders have parents whose rate of lifetime dysfunction for the same type of disorder is relatively high (Last, Hersen, Kazdin, Orvaschel, & Perrin, 1991). There is limited research available investigating the role of family's social context in the aetiology and treatment of child and adolescent anxiety disorders. Dadds, Heard, and Rapee (1992) suggest, that for children who show anxiety problems from an early age, family members may play an important role in both the development and amelioration of the problem. Kazdin (1995) suggests that prosocial aspects of child and family functioning (social competence, participation in social activities, and interpersonal relations) are pivotal to child adjustment, and therefore, to treatment. Unless specifically studied, as in social skills training interventions, prosocial child and/or family functioning is not usually monitored, assessed or evaluated in treatment interventions.

Researchers may also be failing to examine other individual difference variables that moderate the development and treatment of psychopathology in children. Unless directly examined, characteristics of the child, parent, and family which vary from case to case, can often be neglected in psychology research. It seems apparent though, that in terms of clinical practice, individual differences are often addressed within the therapy process. We currently lack knowledge about the way that child variables may interact with different types of childhood anxiety interventions (Kazdin & Weisz, 1998). Variables such as gender, age, ethnicity, and culture can impact on how and when children are identified for treatment, on the association with risk and protective factors, and on help-seeking behaviour.

Some investigation of gender variations in childhood anxiety has been carried out. Epidemiological research with the general population indicates that girls report a greater number of fears than boys (King et al., 1989; Ollendick & King, 1991). The same gender pattern has also been reflected in retrospective studies of clinical samples where, at age 6, females are already twice as likely to have experienced an anxiety disorder than males (Lewinsohn, Gotlib, Lewinsohn, Seeley, & Allen, 1998). However, contradictory results obtained from direct clinical interviews with children and adolescents failed to find any gender differences in terms of anxiety diagnoses (Treadwell et al., 1995). These discrepancies may well be a consequence of referral bias and problem severity. This is reflected in the finding that disturbed boys receive treatment more often than similarly afflicted girls (Costello & Janiszewski, 1990). Nonetheless, gender remains an important issue. It could be that treatment conducted in a clinical setting, which assumes that children of different gender respond to the same treatment, may be erroneous. Therein lies the possibility that children of different gender may respond differently to different treatments.

The interaction between age and gender also holds importance for the focus of childhood anxiety treatment. For boys with overanxious disorder, a strong linear decline in symptomatology has been noted from ages 10 to 20. However, while a small decline was evident for girls, the presence of the disorder remained relatively stable within the same age range (Keller et al., 1992). The longitudinal nature of this research leads to the conclusion that, for girls, the course of overanxious disorder may be more chronic, whilst for boys it would appear that the greatest vulnerability is in late childhood (Cohen et al., 1993). In terms of treatment for boys, this indicates a possible window of opportunity for implementation of preventative programs.

Cultural Factors

Individual ethnic and cultural differences are also important for diagnostic assessment and treatment. Ethnic, cultural, or racial identity has the potential to impact on the time and method by which children are detected for treatment, on risk and resilience factors, on age of onset, and on help seeking behaviours and use of treatment facilities (Kazdin, 1995). At a more personal level, customs, religious beliefs, and attitudes impact on the attributed causation of symptomatology, on the meaning ascribed to the behaviour, and on how information relating to the problem is conveyed (Bird, 1996). Because of potential communication difficulties, the risk of "category fallacy" becomes relevant. This refers to a situation where a child may be misclassified due to the use of a diagnostic instrumentation developed for another, specific cultural population. For example, variation in mean scores on the Child Behaviour Check List (CBCL; Achenbach, 1991) have been noted between cultures such as the United States, Jamaica, the Netherlands, Puerto Rico, Thailand, and China, although it must be added that the effects due to culture were minimal (Bird, 1996). How other instruments and diagnosis/assessment techniques fare in light of such comparisons is an area in need of research. Bird (1996) argues that "we need to develop culturally sensitive translations of instruments into different languages, or use interviewers from the same cultural and linguistic background as the study subjects" (p. 45), to overcome cross-cultural barriers in the therapy process.

With regards to the impact of cross cultural identity on treatment responsiveness, very little research has been completed. Last and Perrin (1992) have explored the similarities and differences between African American and White children seeking treatment for anxiety in an outpatient mental health facility. In terms of epidemiology, it was found that the two groups were more similar than different in relation to sociodemographics, clinical features, and diagnosis. These similarities may, conceivably, be a consequence of referral bias, thus more studies are needed to explore if the findings are reflected in the community. It stands to reason, however, that if they are similar in clinical characteristics, these two groups may also respond similarly to treatment. Research has, in fact, found that cognitive-behavioral therapy is equally effective for African American and White children with anxiety disorders (Treadwell et al., 1995). Research to determine if a similar response to treatment exists between other cultural groups would be valuable.

FUTURE DIRECTIONS FOR TREATMENT RESEARCH

The current discussion has attempted to emphasize the relevance of developmental factors to the treatment of childhood anxiety disorders. In so doing, it has identified

several areas that are under-researched at present, and others that provide avenues for new research. The argument has been that programs of treatment for childhood anxiety need to be especially sensitive to developmental factors. Examination of developmental patterns in normal fear experiences indicate that fears in early childhood are related to concrete, specific, and immediate threats. Later in adolescence, fears become more cognitive, anticipatory, and socially based. Normal experiences of fear tend to decrease in both number and intensity as children age and become more physically and socially capable (Gullone, 1996). These patterns should serve as a guide for treatment design and implementation; the specific problems of different developmental stages (e.g., the concrete, specific fears of childhood versus the more cognitive, peer-related, and social fears of adolescence) being catered for, as relevant to the age group under consideration.

Investigating the impact of developmental changes over time is also a necessary component of treatment research. Carefully designed longitudinal studies that could potentially identify the variables related to therapeutic change, and to the maintenance of change over time, are very scarce in the childhood anxiety area. Long-term follow-up is needed to highlight the influence, and relationship to treatment outcome, of variables such as age of onset, gender, duration of disorder, comorbidity, family dysfunction, marital discord, and socioeconomic status (Kovacs & Devlin, 1998; Ollendick & King, 1994). Of similar importance, though even less frequently reported, is longitudinal data pertaining to the role of client or therapeutic variables in long-term treatment outcome. Although the efficacy of treatment is well documented, treatment outcomes are usually only followed for a period of 1 to 2 years, revealing little about the mechanisms or predictors of individual or family change (Ollendick & King, 1994). This lack of longitudinal research can partially explain the absence of conceptual models that describe or explain the phenomenon of change over time.

As has been highlighted earlier, the potential benefits of including a parental component to therapy has already being shown. It has been found that family treatment, both in individual and group format, is more effective for children aged 7–14 years, at 12 months and 4 years follow-up, than child-focused treatment alone (Barrett et al., 1996; Barrett, 1998). Cobham, Dadds, and Spence (in press) set out to investigate if the added effectiveness of family involvement in treatment was dependent mostly on the level of anxiety in the parents of the referred child. The results of their study confirmed the effectiveness of group interventions for childhood anxiety disorders, and the importance of teaching parental anxiety management, for a sub-set of parents presenting with high anxiety themselves. Theses researchers showed that we can make our interventions more cost effective by involving the parents, only when they also demonstrate high anxiety. However, some of their findings were inconclusive due to a lack of convergence across different measures. The idea that treatment costs could be reduced by just providing the parental anxiety management component (PAM) of standard family treatment, to one or both parents presenting with high trait anxiety, was partially supported by the data.

Apart from parents' anxiety level, other important factors may also have to be taken into account when investigating the role of family involvement in treatment effectiveness. Suggestions include: (a) level of parenting skill; (b) marital adjustment; (c) severity and pervasiveness of child anxiety across different settings; (d) developmental parent–child level of involvement related to age of child; (e) peer group factors at different ages; and (f) the nature of life events in the parents' and child's life. One also has to consider the applicability of current, clinical research designs and derived pro-

tocols to mental health professionals working with anxious children in community settings, where the large majority of cases are severe and have multiple parenting and family problems. Usually, these families need assistance and support in a variety of ways, beyond dealing with potentially high levels of parental anxiety.

Whilst children and adolescents with anxiety disorders are often seen in clinical practice, and many research studies have derived samples from such populations, another large group of children are treated through schools and community groups. Research has not yet examined the effectiveness of treatment in these alternative settings, nor in others such as home, special after-school, day care, and residential settings. There is a lack of information regarding the effect of setting on treatment and of the influence of those providing treatment in alternative settings. Given that treatment is occurring in these contexts, and has the potential to occur more often in the future, there is a clear need to attend to these unknowns. Closely related to this issue, is the question of how well-controlled outcome research can be generalised to clinical practice. Kazdin (1995) suggests that the treatment outcomes obtained in clinical settings do not approach those achieved in research. These findings are clearly difficult to verify as few controlled studies are available that draw these comparisons. Future identification of factors associated with treatment effectiveness across settings is therefore important. The opportunity to compare the cost efficacy and treatment effectiveness of various interventions, such as those conducted in group and school settings, is a further motivation for research in this area (Barrett, 1998; Dadds, Spence, Holland, Barrett, & Laurens, 1997).

CONCLUSIONS

Generally speaking, standardised treatment programs for childhood anxiety have only been designed and evaluated over the past 10 years. Research in this area has grown in accuracy and sophistication, with positive consequences for families and clinicians. However, in common with other areas of child and adult psychopathology, several conceptual and methodological limitations still remain. The current discussion has sought to highlight some of these, with particular emphasis on the developmental domain.

One continuing controversy has to do with the very definition of "childhood anxiety disorder" (Gullone, 1996). This controversy impacts upon the assumptions that underlie our current models of psychopathology, and on the implications of these for assessment and treatment. Another issue is the role of the family and peer group in terms of increasing the efficacy of childhood anxiety treatment also needs further study. Furthermore, we do not yet have clear protocols, nor data about social validity and integrity procedures, for implementation of childhood treatments in general.

Kazdin and Kendall (1998) have proposed a number of steps that should be taken in the development of any effective psychological treatment. These steps move through conceptualisation of the dysfunction; research on processes related to the dysfunction; conceptualisation of the treatment and its goals; specification of how the treatment is to be operationalised; tests of the treatment's outcome; tests of the treatment processes; to tests of the boundaries, conditions and moderators that affect the optimal implementation of the treatment. It seems appropriate that, where the treatment pertains to children or adolescents, consideration of developmental factors should be included at each of these steps. For example, it would be redundant to design a treatment protocol for children of different ages without having involved devel-

opmental considerations in the conceptualisation of that treatment. Similarly, to have made the effort to build developmental themes into a treatment design, yet fail to evaluate the effect of these themes on treatment outcome, would be to overlook information that is potentially critical to future treatment design and application.

There appears no doubt that we need to develop new paradigms for childhood anxiety research, and that specific theoretical models must be formulated to account for the important developmental issues discussed throughout the discussion. Furthermore, as these issues encompass individual, family and wider-systemic variables, these potential models should not be restricted solely to explanations of developmental variation in the anxiety disorders themselves. Treatment needs, rather, to be informed by as many aspects of development as possible, and by the likely impact of these on the presenting client, rather than by diagnostic criteria alone (Sonuga-Barke, 1998).

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