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Evaluation of Cognitive–Behavioral Group Treatments for Childhood Anxiety Disorders

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Undertook an evaluation of a cognitive–behavioral group family-based intervention for childhood anxiety disorders in Brisbane, Australia. The treatment aimed to provide children and their families with skills in the management of anxiety and avoidance, problem solving, and mutual family support. Children (n = 60) ranging from 7 to 14 years old who fulfilled diagnostic criteria for separation anxiety, overanxious disorder, or social phobia were randomly allocated to 3 treatment conditions: group cognitive–behavioral therapy (GROUP–CBT), group cognitive–behavioral therapy plus family management (GROUP–FAM), and wait list (WL). The effectiveness of the interventions was evaluated at posttreatment and 12-month follow-up. Results indicated that across treatment conditions, 64.8% of children no longer fulfilled diagnostic criteria for an anxiety disorder in comparison with 25.2% of children on the wait list. At 12-month FU, 64.5% of children in the GROUP–CBT group and 84.8% of children in the GROUP–FAM group were diagnosis free. Comparisons of children receiving GROUP–CBT with those receiving GROUP–FAM on self-report measures and clinician ratings indicated marginal added benefits from GROUP–FAM treatment. Results show that CBT interventions for childhood anxiety disorders can be effectively administered in a group format.

Anxiety difficulties are among the common psychological problems reported by children (Mattison, 1992), and many anxious adults report their problems originated in childhood (Rapee & Barlow, 1993). For most children, various fears occur as part of normal childhood development. However, for some, these fears intensify and persist over time, preventing the child from enjoying age-related activities and thereby warranting clinical attention. For example, Klein and Last (1989) reported that anxiety has a negative effect on children's general social adjustment. Anxiety problems occur in 10–20% of school-age children; the more general anxiety disorders that have a major impact on children's functioning, such as overanxious disorder, separation anxiety, and social phobias, are found in approximately 5% to 10% of children (Werry, 1986).

Research is limited in relation to the treatment of childhood anxiety disorders, and most of those carried out have used single case designs in the treatment of

simple phobias and specific fears in children (King, Hamilton, & Ollendick, 1988). Studies of cognitive–behavioral treatment of childhood anxiety, successfully using a combination of behavioral techniques (in vivo exposure, relaxation, and contingency management) and cognitive coping skills (self-instructional training), have mainly concentrated on school fears, nighttime fears, and fears of medical procedures (Kendall, et al., 1992). Group treatment has not been considered in the existing research despite findings revealing that group contingencies promote peer support, reinforcement opportunities, sharing of resources, and increased prompting and modeling of desirable behaviors (Kazdin, 1994).

Family factors have been shown to be commonly associated with the development and maintenance of childhood anxiety; such factors include parental anxiety and depression, family conflict, marital discord, and parental reinforcement of avoidant coping strategies (Barrett, Rapee, Dadds, & Ryan, 1996; Bruch, Heimberg, Berger, & Collins, 1989; Turner, Beidel, & Epstein, 1991). Further, there is growing evidence suggesting that anxiety in children is significantly related to frequent negative feedback and parental restriction (Barrett et al., 1996; Krohne & Hock, 1991). Moreover, recent experimental studies have provided evidence for the support of a childhood anxiety model based on the development of an anxious cognitive style in the context of anxiety-supporting family processes.

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More specifically, family processes have been shown to enhance avoidant responses in anxious children (Barrett et al., 1996).

Several suggestions have been made to improve the treatment outcome of childhood disorders by expanding the focus of treatment. Training parents in specific skills to manage the child's problems, improvements in marital and family problem solving and communication, and parents' own psychosocial adjustment are some of the skills that appear to be associated with improved outcomes in childhood clinical interventions (Dadds, 1987; Miller & Prinz, 1990).

Given the significance of such family factors, it is not surprising that parenting training programs, together with cognitive procedures, have been found to be beneficial in the treatment of simple phobias in children (Dadds, Heard, & Rapee, 1991; Heard et al., 1992; King et al., 1988). However, few studies have yet assessed the value of incorporating parent training in treatment outcome studies in childhood anxiety. Thus, for families of anxious children, a comprehensive intervention might include training the parents in skills for managing the child's anxiety and avoidance, helping parents deal with any anxiety problems they themselves experience, and improving family problem solving, as well as working with the child (Barrett, Dadds, & Rapee, 1996; Dadds, 1995).

There are few randomized treatment studies of general anxiety disorders in children (e.g., Barrett et al., 1996; Kendall, 1994). These studies have shown individual forms of cognitive-behavioral interventions (both with the child alone and with the child plus parents) to be superior to wait list conditions, with improvement across measures being maintained at 12-month follow-up (FU). In Kendall's (1994) study, 27 children (the wait list control consisted of 20 children) with a diagnosis of overanxious, separation anxiety, or avoidant disorder were taught over 16 sessions about developing realistic expectations, coping self-talk, and self-evaluation of performance as well as about modeling, exposure, and relaxation training. A multimethod assessment strategy was used, including a variety of child, parental, and teacher self-report measures, as well as behavioral observations.

Kendall and Southam-Gerow (1996) examined the effectiveness of Kendall's CBT treatment (1994) at 3-year follow-up. Thirty-six youth were reassessed using self- and parent-report measures as well as diagnostic interviews. Results indicated that the previously reported treatment gains were maintained.

A point raised by Kendall (1994) concerned the need for controlled outcome studies with parental involvement in the treatment of anxious children. Barrett et al. (1996) addressed this issue and evaluated the incorporation of structured family intervention in the treatment of anxious children. In a controlled treatment study involving a large number of families, Barrett et

al. showed the effectiveness and importance of involving the family in the treatment of childhood anxiety. Similarly, Howard and Kendall (1996), working with six clinically anxious children age 9 to 13 years, showed the effectiveness of a cognitive-behavioral family therapy intervention through a multiple baseline design. Changes in diagnostic status, standardized parent- and teacher-report measures, and parent and child reports on specific measures of coping indicated meaningful treatment related gains, which were maintained at 4-month follow-up.

To date there have been no controlled clinical trials of cognitive-behavioral or family interventions for childhood anxiety disorders that are presented in a group format. However, researchers have shown the potential benefits of behavioral group programs as increased sources of reinforcement, prompting, normalization, modeling, and helping behavior (Albano, Marten, Holt, Heimberg, & Barlow, 1995; Heimberg et al., 1990; Heimberg, Salzman, Holt, & Blendell, 1993; Kazdin, 1994; Kohler & Greenwood, 1996). Clinical outcome research into adult anxiety is also rich with examples of the effective use of behavioral group interventions (Rose, 1989; Rose & Feldman, 1986). In a recent controlled trial, Blonk, Prins, Sergeant, Ringrose, and Brinkman (1996) showed the effectiveness of cognitive-behavioral group interventions with a clinical sample of children age 8 to 12 years with social skills difficulties. The results were maintained at 4-month follow-up, and treatment outcome was measured by parental and teachers' reports on social behavior, sociometrics and self-reported social anxiety, and negative self-evaluation. The treatment program consisted of 20 sessions, which covered teaching overt social skills and interpersonal problem-solving skills, and restructuring social cognition.

A next step in researching the development of effective cognitive-behavioral controlled clinical trials is to develop and evaluate family group interventions for specific child disorders. We wanted to investigate whether CBT family intervention presented in a group format was as effective as individual CBT family interventions (Barrett et al., 1996). The effectiveness of group work has important clinical implications in the design and delivery format of future interventions. Specifically, group work acts to maximize cost delivery and efficacy, enhance positive modeling opportunities, and extend interfamily support throughout and after therapy.

This study reports on a randomized clinical trial investigating the effectiveness of cognitive-behavioral and family management training procedures presented in group format for childhood anxiety disorders. The two treatment conditions were child-only cognitive-behavioral treatment (GROUP-CBT) and cognitive-behavioral plus family management training (GROUP-FAM). It was hypothesized that both active

treatment conditions would produce significant change in the dependent variables in contrast to the wait list control condition. Improvement was expected to be observable across measures and maintained at 12-month FU. It was further hypothesized that the group, with the added family training component, would produce greater improvement on the dependent measures than the group cognitive-behavioral intervention alone. This hypothesis was based on previous research findings (Barrett et al., 1996), where treatment and 12-month FU outcomes (diagnostic status, self-report, and direct observation measures) were enhanced by the addition of a family treatment component.

Method

Participants

Sixty children ranging from 7 to 14 years of age (32 boys, 28 girls) participated in the treatment study. Fourteen children came from homes with non-English-speaking ethnic backgrounds (Asian, Greek, and Italian), but all spoke English fluently at school (the same applied to reading and writing in English). Children were matched across treatment conditions for sex, ethnicity, socioeconomic status, and age.

Children with one or more anxiety disorders were referred from community centers, schools, mental health professionals, and medical practitioners or were self-referred following media releases. Children were randomly allocated to GROUP-CBT, ($N = 23$), GROUP-FAM, ($N = 17$), and a wait list condition (WL; $N = 20$; treated after the wait list period). Children and their parents were interviewed separately using a structured interview schedule (the study started when the *Diagnostic and Statistical Manual of Mental Disorders*, 3rd ed., rev.; *DSM-III-R*; American Psychiatric Association, 1987), and only children with a principal diagnosis of overanxious disorder (OAD; $n = 30$), separation anxiety disorder (SAD; $n = 26$), or social phobia ($n = 4$) were included in the treatment. Two percent of the children were comorbid with depression, 10% had simple phobias, 4% had avoidant disorder, and 21% had either overanxious or separation anxiety disorder. Children with a principal diagnosis of simple phobia or other disorders were referred to the university clinic for a separate intervention. Children with a secondary diagnosis of simple phobia or any other of the aforementioned anxiety disorders were included. Children with intellectual or physical disabilities, those who were currently taking antianxiety or depression medication, and those whose parents were involved in acute marital breakdown ($N = 2$) were referred elsewhere and not included in the study.

Measures

Structured diagnostic interview. Diagnosis was based on an Anxiety Disorder Interview Schedule for Children (ADIS-C), with a parallel version for the parents (ADIS-P; Silverman & Nelles, 1988). This schedule is in accordance with the *DSM-III-R* and contains criteria for the screening of other childhood disorders. A double reliability diagnosis procedure was used whereby two clinicians, interviewing parents and child separately, had to reach a final consensus diagnosis. The overall kappa agreement for the presence of any anxiety disorder was .70, and kappas for specific anxiety disorder diagnoses were .63 for OAD, .82 for social phobia, and .69 for SAD. More details of the diagnostic reliability procedures and results can be found in Rapee, Barrett, Dadds, and Evans (1994).

At posttreatment and follow-up, clinicians who were unaware of the child's treatment condition conducted diagnostic interviews and rated improvement in the child and family on the basis of the following: (a) all anxiety disorder items of the ADIS (an exact copy of all the ADIS questions for each anxiety diagnosis used for assessment at pretreatment) and (b) clinical questions about seven dimensions of adjustment. These seven questions included questions about (a) clinical global impression, (b) overall functioning, (c) overall anxiety, (d) avoidant behaviors, (e) family disruption, (f) parental perceived ability to deal with child, and (g) child's perceived ability to deal with feared situations. The clinicians made ratings of improvement using 7-point Likert scales, where 0 = *markedly worse*, 3 = *no improvement*, and 6 = *marked improvement*. Previous research has shown these ratings to have empirical validity and to be sensitive to clinical improvement in anxious children (Barrett et al., 1996).

Self-report measures. The Fear Survey Schedule for Children-Revised (FSSC-R; Ollendick, 1985) contains 80 items (3-point scale) assessing specific fears in children and has Australian norms. This scale can be divided into five subscales and has good test-retest reliability and internal consistency. The total mean fear score for girls is 145 and for boys is 126 (nonclinic school samples). Matched school phobic children obtained a mean of 175 for girls and 151 for boys (Ollendick, Matson, & Helsel, 1985).

The Child Behavior Checklist (CBCL; Achenbach & Edelbrock, 1991) is a well-known and researched, psychometrically sound, 118-item scale that assesses specific child behaviors from the parents' perspective. In the present study it was used both with mothers and fathers. The CBCL provides a total behavior problem score, several subscale scores, and scores on two dimensions of dysfunction: internalizing (anxious, de-

pressed, withdrawal) and externalizing (aggression, impulsivity). Only the internalizing and externalizing scores were used in this study. For every scale, scores obtained above the 98th percentile are considered within the clinical range.

Procedure

After referral, clinic staff contacted parents and made an intake appointment interview during which consent forms were presented and diagnostic interviews were conducted. After being informed of all the procedures involved in the research protocol and of their right to withdraw from the project at any time, written consent was obtained from all participating families.

Parents and children were given a set of self-report measures and asked to return them at the second intake interview, which occurred within 1 week.

Following the intake interviews and establishment of a consensus diagnosis, participants were randomly assigned to the 12-week GROUP-CBT, 12-week GROUP-FAM, or 12-week WL conditions. Sessions in both treatment groups took place on a weekly basis for 2 hr. Participants assigned to the WL condition were given the same measures as those in the treatment conditions at the beginning and end of the 12-week waiting period (including the clinical ratings questions). Families who sought alternative treatment during the waiting period ($N = 4$) were excluded from analyses. All the wait list participants who continued to meet diagnostic criteria after the 12-week wait period were offered the GROUP-FAM intervention, as were children who continued to show problems at 12-month FU in the GROUP-CBT group.

Treatment integrity was measured by randomly selecting and audiotaping 50% of the therapy sessions across treatment conditions. A clinician naive to each family's treatment condition listened to session audiotapes and followed a treatment integrity checklist to assure treatment adherence to each condition.

Therapy was provided by four registered clinical psychologists at University Brisbane Clinics. Each therapy group was run by two therapists, who followed through with their group until the final session. Therapists received training in CBT group therapy work and were experienced in both individual and family CBT treatments for childhood anxiety, having previously participated in the Barrett et al. (1996) controlled trial.

Treatment Materials

All children in the active treatment conditions received the *Coping Koala Group Workbook* (Barrett, 1995a), which is an Australian adaptation of Kendall's

Cognitive-Behavioural Treatment program (*Coping Cat Workbook*; Kendall et al., 1990). This workbook covers recognising anxious feelings and somatic reactions to anxiety, cognitive restructuring in anxiety provoking situations, coping self-talk, exposure to feared stimuli, peer modeling, and administering self and peer reinforcement as appropriate. The first four sessions were training sessions in which anxiety management procedures were introduced, role played by the therapist, and practiced by each child (i.e., identification of positive/negative thoughts that one forms in a variety of situations and the feelings that one experiences; relaxation training; use of coping self-talk in anxiety-provoking situations; realistic self-evaluation; and development of self-reward strategies). Throughout the remaining eight sessions each child practiced the aforementioned anxiety coping skills by using in vivo exposure to feared situations, starting with the low-stress anxiety situations and gradually increasing to high-stress situations. To match for therapist contact time across treatment conditions, group sessions were 2 hr in duration. In the GROUP-CBT condition, only the children were included in treatment, in a group situation with the therapist.

The Group Family Anxiety Management Workbook (Barrett, 1995b) was used in parallel with the *Coping Koala Workbook* in the GROUP-FAM condition. That is, after children completed each of the Coping Koala sessions with the help of parents and therapists, they worked together through a Group Family Anxiety Management session. In summary, two therapists and six families—parents and children—met together in groups for 2 hr on a weekly basis. Hence, both treatment manuals were used in the GROUP-FAM condition, with parents, children, and therapists working together as a group in the therapy room.

GROUP-FAM emphasizes systemic group process methods for empowering parents and children by forming an "expert team" with them, including the open sharing of information, joint determination of the content and processes of therapy, and the identification and reinforcement of family members for any existing areas of expertise they may have (Sanders & Dadds, 1992).

The three specific content aims of the GROUP-FAM anxiety intervention are as follows. First, we provide group training to parents in how to reward courageous behavior and extinguish excessive anxiety in the child. Thus, parents are trained in reinforcement strategies, including verbal praise, and in administering privileges and tangible rewards that are made contingent upon facing up to feared situations. Planned ignoring is used as a method for dealing with excessive complaining and anxious behavior. That is, the parent is trained to listen and respond empathetically to the child's complaints the first time they occur. However, repetitions are followed by the parent prompting the child to engage in a coping strategy (learned

in the parallel GROUP-CBT intervention) and then the parent withdrawing attention until the anxious or complaining behavior ceases. Thus, parents are taught how to use simple contingency management strategies such as descriptive praise, natural consequences, and planned ignoring to reduce conflict and increase cooperation in the family. During the sessions, parents role-played the contingency management strategies with examples of their child's fearful behaviors in a group systemic process in which participants are encouraged to learn from each other's role plays and home experiences.

Second, parents are taught how to deal with their own emotional upsets, gain awareness of their own anxiety responses in stressful situations, and model problem-solving and proactive responses to feared situations. Third, we provide brief training in communication and problem-solving skills to parents so that they are better able to work as a team in solving future problems and maintaining therapeutic gains once therapy has terminated. This training involves:

1. Responding to conflict—Parents are trained in skills for reducing the escalation of interparental conflict over child-rearing issues and in being consistent with each other in terms of appropriate handling of their child's fearful behaviors.
2. Daily discussions—Parents are encouraged to set aside time for regular, casual discussions about each other's day, and brief training in listening skills is provided to increase the effectiveness of these discussions.
3. Problem solving—Parents are encouraged to schedule weekly problem-solving discussions to aid in the effective management of child and family problems. Brief training in problem-solving skills is provided (Dadds, 1989).

The family intervention is designed to be completed in 12 sessions; 8 sessions are devoted to anxiety management techniques and the remaining sessions to parental communication strategies.

Therapist contact time was matched for both treatment conditions (more child daily examples were used for the GROUP-CBT). Treatment manuals were implemented with flexibility to allow for the individuality of each family and any specific group needs. Group processes included normalization of anxiety experiences, group exposure through discussion and role play of common threatening experiences, peer learning and interparental support through discussion of difficulties and effective problem-solving strategies, peer modeling of approaching behaviors to feared stimuli, and interparental role play of reinforcement procedures to their children's coping behaviors. Finally, we encouraged the development of a support maintenance

network among parents, which extended beyond the duration of the program.

Results

To ensure there were no significant demographic differences across treatment conditions at pretreatment, one-way analyses of variance (ANOVA) tests or chi-square tests were performed comparing both treatments and WL conditions. There were no significant differences across conditions for child's sex, mother's and father's ages, number of siblings, socioeconomic status, or marital status. All dependent measures (self-report measures for both children and parents) were compared across both treatment conditions and the WL condition. Again, no significant differences were revealed.

During treatment, there were four dropouts in the GROUP-CBT condition (two moved interstate, and two engaged in alternative treatment; completions = 19), four in the WL (all four engaged in alternative treatment; completions = 16) and two in the GROUP-FAM condition (both moved to another city; completions = 15). During follow-up, one family in the GROUP-CBT group and two families in the GROUP-FAM group moved out of state. For all measures there were no significant differences between completers and dropouts using ANOVA comparisons on the dependent measures.

Procedures to maximize and measure protocol adherence were taken to ensure that therapists followed each item of the GROUP-FAM protocol during each of the sessions. We also wanted to rule out the possibility that if parents in the GROUP-CBT condition asked questions about how to manage their child, therapists would respond the same way and not provide child management suggestions characteristic of the GROUP-FAM condition. If such questions occurred, therapists followed the standard procedure of empathizing with the parent and redirecting him or her to the content of the child's ongoing GROUP-CBT sessions.

Protocol adherence was confirmed for both treatment conditions. The clinician was given a checklist of each session's contents in both the GROUP-CBT and GROUP-FAM conditions, which she had to check, item per item, as she listened to the audiotapes. Hence, within each treatment condition, session-by-session contents were checked and adherence to protocol was confirmed for all sessions with each therapist—parents in the GROUP-CBT did not receive any of the components of the GROUP-FAM program.

To assess therapist comparability in terms of effectiveness, ANOVA comparisons on all dependent measures were done at posttreatment, and 12-month FU using therapists as the independent variable. No significant differences were found.

Diagnostic Status

At posttreatment, the percentage of children who no longer met *DSM-III-R* criteria for any current anxiety disorder (principal and secondary diagnoses) was significantly less for both treatment groups (64.8% of children) than for the WL (25.2%); $\chi^2(1, N = 59) = 8.35, p < .01$. There was not a significant difference between the two treatments: GROUP-CBT, 55.9%; GROUP-FAM, 70.7%; $\chi^2(1, N = 39) = 0.82, ns$.

At 12-month FU, the difference between the two treatment conditions on diagnostic status remained nonsignificant: GROUP-CBT, 64.5%; GROUP-FAM, 84.8%; $\chi^2(1, N = 39) = 1.92, ns$.

Clinical Evaluations

Table 1 presents means for the seven clinical evaluation scales, each on a 7-point scale (0 = *markedly worse*, 3 = *no improvement*, 6 = *marked improvement*). Means center around 4.44 for GROUP-CBT and around 4.95 for GROUP-FAM, and generally increase from posttreatment to 12-month FU, indicating an overall improvement with time. As the clinical evaluations represent seven interrelated dimensions, we first tested for treatment group differences at posttreatment and 12-month FU using a series of multivariate analysis of variance (MANOVAs; repeated measures). Where significant differences were found, follow-up univariate ANOVAs were conducted.

At posttreatment, an overall MANOVA indicated a significant difference between the two treatments, $F(7, 34) = 7.46, p < .01$. The majority of means were higher in the GROUP-FAM; follow-up ANOVAs showed that the GROUP-FAM treatment was significantly superior to the GROUP-CBT on two of the seven clinical evaluation scales: Change of Family Disruption by the Child's Behavior, $F(1, 34) = 20.4, p < .01$; and Change in Parent's Perception of Own Ability to Deal with Child's Behaviors, $F(1, 34) = 31.7, p < .01$.

At 12-month FU, the MANOVA again indicated a significant difference between treatments, $F(7, 34) = 7.7, p < .01$. Follow-up ANOVAs showed that the GROUP-FAM treatment group was significantly superior to the GROUP-CBT group on six clinical evaluation scales: Overall Functioning, $F(1, 34) = 11.5, p < .01$; Overall Anxiety, $F(1, 34) = 11.5, p < .01$; Avoidant Behaviors, $F(1, 34) = 10.5, p < .01$; Change of Family Disruption by the Child's Behavior, $F(1, 34) = 20.5, p < .01$; Change in Family Skill to Deal with Child's Behaviors, $F(1, 34) = 21.7, p < .01$; and Change of Child's Ability To Deal with Difficult Situations, $F(1, 34) = 9.7, p < .01$.

Self-Report Measures

Table 2 show means and standard deviations for the self-report measures at pretreatment, posttreatment, and 12-month FU, for the GROUP-CBT, GROUP-FAM and WL (pre- and posttreatment only) treatment conditions. Results for each self-report measure were analysed in two stages. First, a 3 (GROUP-CBT, GROUP-FAM, WL) \times 2 (Phase: pre- vs. posttreatment) ANOVA or MANOVA was used to examine immediate treatment effects. Second, a 2 (Treatment: GROUP-CBT, GROUP-FAM) \times 2 (Phase: posttreatment, 12-month FU) ANOVA or MANOVA was used to examine the durability of treatment effects for the two active treatments. MANOVAs were used for measures having multiple subscales. Where a significant interaction occurred between treatment and time, time effects were examined within each treatment group, and treatment conditions were compared at the relevant time. As an estimate of the clinical significance of change on self-report measures, percentages of children scoring in the normal range (*T* score < 70) was calculated for posttreatment and 12-month FU scores on mothers' CBCL internalizing scale.

From pre- to posttreatment for the FSSC-R, the ANOVA revealed phase and treatment main effects,

Table 1. Independent Clinician Ratings of Improvement

Scale	Posttreatment				12-Month Follow-Up			
	GROUP-CBT		GROUP-FAM		GROUP-CBT		GROUP-FAM	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Global	4.72	0.82	4.60	0.73	5.05	0.63	5.26	0.70
Functioning	4.66	0.76	4.46	0.91	4.64	0.72	5.40 ^a	0.73
Anxiety	4.36	0.69	4.66	0.97	5.00	0.84	5.53 ^a	0.51
Avoidance	4.66	0.84	4.60	0.82	4.94	0.80	5.70 ^a	0.45
Family	4.11	0.93	5.00 ^a	0.97	4.38	0.60	5.73 ^a	0.59
Family Skill	4.00	0.68	5.20 ^a	0.66	4.33	0.68	5.99 ^a	0.67
Child Skill	4.61	0.77	5.00	0.93	4.27	0.66	5.80 ^a	0.97

Note: GROUP-CBT = group cognitive-behavioral therapy; GROUP-FAM = group cognitive-behavioral therapy plus family group intervention. Clinicians used a 7-point scale ranging from 0 (*markedly worse*) to 6 (*marked improvement*). Univariate comparisons were made between the two conditions using ANOVAs ($p < 0.05$).

^aIndicates the mean is different from the corresponding mean.

Table 2. Means and SDs of Child Self-Report Measures for the Three Treatment Conditions

Scale	Pretreatment			Posttreatment			12-Month Follow-Up	
	GROUP-CBT	GROUP-FAM	WL	GROUP-CBT	GROUP-FAM	WL	GROUP-CBT	GROUP-FAM
FSSCR								
<i>M</i>	135.2	131.1	134.9	116.2	110.2	136.2	99.6	90.5
<i>SD</i>	11.5	9.4	10.8	13.0	8.2	12.1	9.4	8.2
Mother								
CBCL-I								
<i>M</i>	69.3	68.7	68.9	55.1	51.0	68.3	50.1	41.0
<i>SD</i>	6.5	6.9	5.1	3.3	4.1	4.6	4.6	3.8
CBCL-E								
<i>M</i>	56.2	54.9	58.6	52.7	46.0	57.2	45.6	41.2
<i>SD</i>	6.9	7.1	5.3	4.1	3.9	5.6	4.1	4.4
Father								
CBCL-I								
<i>M</i>	69.8	68.9	67.6	54.2	47.2	65.2	49.9	42.1
<i>SD</i>	4.3	4.2	5.1	4.6	5.1	5.9	5.1	4.1
CBCL-E								
<i>M</i>	53.7	52.4	53.9	50.3	48.1	54.4	45.2	36.4
<i>SD</i>	4.2	4.9	5.3	3.6	4.3	3.4	5.7	4.5

Note: GROUP-CBT = group cognitive-behavioral therapy; GROUP-FAM = group cognitive-behavioral therapy plus family group intervention; WL = wait list; FSSCR = Fear Survey Schedule for Children-Revised; CBCL-I = Child Behavior Checklist-Internalizing; CBCL-E = Child Behavior Checklist-Externalizing.

$F(1, 34) = 10.20, p < .01$, and $F(1, 34) = 9.02, p < .01$, respectively. The phase effect indicated an overall reduction of self-reported fears for all conditions. Analyses comparing the three conditions confirmed no significant differences on the FSSC-R at pretreatment, but differences were evident at posttreatment, $F(2, 34) = 6.22, p < .05$, despite the lack of a treatment by time interaction. A post hoc Tukey's honestly significant difference (HSD) test shows that at posttreatment, GROUP-FAM had significantly lower fear scores than the wait list group.

The ANOVA comparing the two treatment conditions at posttreatment and 12-month FU produced a time by treatment interaction, $F(1, 34) = 4.90, p < .05$, and an overall time effect, $F(1, 34) = 6.63, p < .01$. Comparisons of the conditions at 12-month FU showed that GROUP-FAM had lower fear scores than GROUP-CBT at 12-month FU, $F(1, 34) = 3.91, p < .05$.

From pre- to posttreatment for mother's scores on the CBCL Internalizing and Externalizing scales, the MANOVA revealed a significant Treatment \times Time interaction, $F(1, 34) = 3.17, p < .01$, as well as treatment and time main effects. For the Internalizing scale, there was a time effect associated with reductions in internalizing scores for both GROUP-CBT, $F(1, 19) = 12.02, p < .01$, and GROUP-FAM, $F(1, 15) = 10.08, p < .01$, but not for WL, $F(1, 16) = 2.25, ns$. An ANOVA revealed significant differences across conditions on the Internalizing scale at posttreatment, $F(2, 34) = 6.1, p < .01$. A follow-up Tukey HSD test showed that children in both GROUP-CBT and GROUP-FAM had significantly lower Internalizing scores than participants in the WL.

From pre- to posttreatment for mothers' scores on the externalizing scale, time effects associated with reductions in externalizing scores were evident for GROUP-CBT, $F(1, 18) = 8.24, p < .01$, and GROUP-FAM, $F(1, 15) = 20.1, p < .01$, but not the WL, $F(1, 22) = 1.94, ns$. The ANOVA at posttreatment was significant, $F(2, 31) = 3.49, p < .05$, and a follow-up Tukey showed that only GROUP-FAM had significantly lower externalizing scores than the WL group.

The MANOVA comparing mothers' CBCL scores for the two treatments at posttreatment and 12-month FU showed significant time, $F(4, 31) = 7.23, p < .01$, and treatment main effects, $F(2, 31) = 3.82, p < .05$, but a nonsignificant treatment by time interaction. Thus, both treatments continued to improve throughout follow-up, with the GROUP-FAM group maintaining consistently lower internalizing and externalizing scores than the GROUP-CBT only group.

From pre- to posttreatment for fathers' scores on the CBCL Internalizing and Externalizing scales, the MANOVA also revealed a significant treatment by time interaction, $F(4, 28) = 4.06, p < .05$, as well as treatment and time main effects. For the Internalizing scale, there was a time effect associated with reductions in Internalizing scores for both GROUP-CBT, $F(1, 16) = 11.36, p < .01$, and GROUP-FAM, $F(1, 12) = 16.03, p < .01$, but not for WL, $F(1, 11) = 2.45, ns$. An ANOVA revealed significant differences across conditions at posttreatment, $F(2, 27) = 5.44, p < .05$. A follow-up Tukey HSD test showed that children in GROUP-FAM had significantly lower internalizing scores than children in the WL.

From pre- to posttreatment for father's scores on the externalizing scale, time effects were evident for the GROUP-CBT, $F(1, 19) = 5.30, p < .05$, GROUP-FAM, $F(1, 15) = 7.01, p < .01$, and wait list conditions, $F(1, 14) = 9.36, p < .05$, indicating a general improvement in externalizing scores for all three conditions. The ANOVA at posttreatment was significant, $F(2, 24) = 6.64, p < .05$, and a follow-up Tukey showed that GROUP-FAM had significantly lower internalizing scores than both the WL and GROUP-CBT conditions.

The MANOVA comparing father's CBCL scores for the two treatment conditions at posttreatment and 12-month FU showed significant time, $F(4, 24) = 7.06, p < .01$, and treatment main effects, $F(2, 24) = 10.07, p < .01$, but a nonsignificant Treatment \times Time interaction. Thus, as for mothers, both treatment conditions continued to improve through follow-up, with GROUP-FAM maintaining consistently lower internalizing and externalizing scores than GROUP-CBT.

In terms of the clinical significance of CBCL results, there were no significant differences between treatment conditions in the number of children scoring above the CBCL, internalizing clinical cut-off at pretreatment. At posttreatment, 10.7% of the GROUP-CBT group, 5.6% of the GROUP-FAM group, and 28.1% of the WL were in the clinical range in respect to the internalizing scale. At 12-month FU, 7.1% of the GROUP-CBT and 3.5% of the GROUP-FAM group scored in the clinical internalizing range. Differences between the GROUP-CBT and GROUP-FAM groups were not significant at either posttreatment or 12-month FU.

Discussion

Both active treatment conditions produced significant change in the dependent variables in contrast to the wait list control condition. Improvement occurred across measures and was maintained at 12-month FU. Further, the group condition with the added family training component showed marginal improvement on a number of measures in comparison with the cognitive-behavioral group intervention treatment.

Similar to Kendall (1994) and Barret et al. (1996), this study demonstrated the effectiveness of using cognitive-behavioral procedures with anxious children. Kendall's controlled treatment study showed that 64% of children who had received a cognitive-behavioral intervention no longer met diagnostic criteria at posttreatment. In the Barrett et al. (1996) study, 57% of children who had received the shortened cognitive-behavioral intervention (12 instead of 16–20 sessions used in Kendall's intervention) no longer met diagnostic status at posttreatment. In this study, 71% and 85% of children who received the GROUP-FAM were diagnosis-free at posttreatment and 12-month FU, respectively.

In this study, group interventions for childhood anxiety proved as effective as individual interventions—as reported in the Barrett et al. (1996) study—both at posttreatment and 12-month FU.

On the independent clinical evaluation scales, both GROUP-CBT and the GROUP-FAM showed improvement at posttreatment, which was maintained at follow-up. Participants in the latter group reported continued significant improvement on the majority of clinical evaluation scales at 12-month FU, supporting the utility of a group family component in the maintenance and generalisation of therapeutic gains.

For the parent self-report measures, both GROUP-CBT and GROUP-FAM showed improvement at posttreatment in comparison with the WL group. For both the Internalizing and Externalizing scales of the CBCL for mothers and fathers, both treatment conditions improved at posttreatment and continued to improve throughout follow-up, with GROUP-FAM maintaining consistently lower internalizing and externalizing scores than the GROUP-CBT group. The greater improvement in externalizing problems for the children in GROUP-FAM may point to the importance of teaching parents contingency management skills to help their children deal with feared stimuli and maximize the benefit of exposure techniques. Overall, the parent report measures support the extra benefits of the GROUP-FAM intervention.

The children's self-report measure also showed the benefit of active treatment, with limited support for the superiority of the GROUP-FAM condition. In the case of the FSSC-R, the GROUP-FAM produced significantly lower FSSC-R scores at 12-month FU than the GROUP-CBT. However, one needs to be cautious when interpreting child self-report measures, because previous research has questioned their validity in discriminating anxious from nonclinic children (Perrin & Last, 1992). In future research, it will be important to include further self-report measures of family functioning and general child anxiety, as well as direct observation measures of family communication (Barrett et al., 1996) both as assessment and treatment evaluation tools. The lack of the aforementioned measures in the present study constitutes a methodological limitation that needs to be addressed in future research.

Another issue relates to the format and number of therapeutic sessions necessary for long-term successful results and the implementation of cost-effective strategies. This study's GROUP-CBT program (twelve 2-hr sessions) showed similar success to Kendall's (1994) GROUP-CBT intervention with sixteen 50- to 60-min sessions. Future research could further examine the issue of optimum intervention length for anxious children.

With respect to demands for therapist's expertise, group family interventions require specific parent

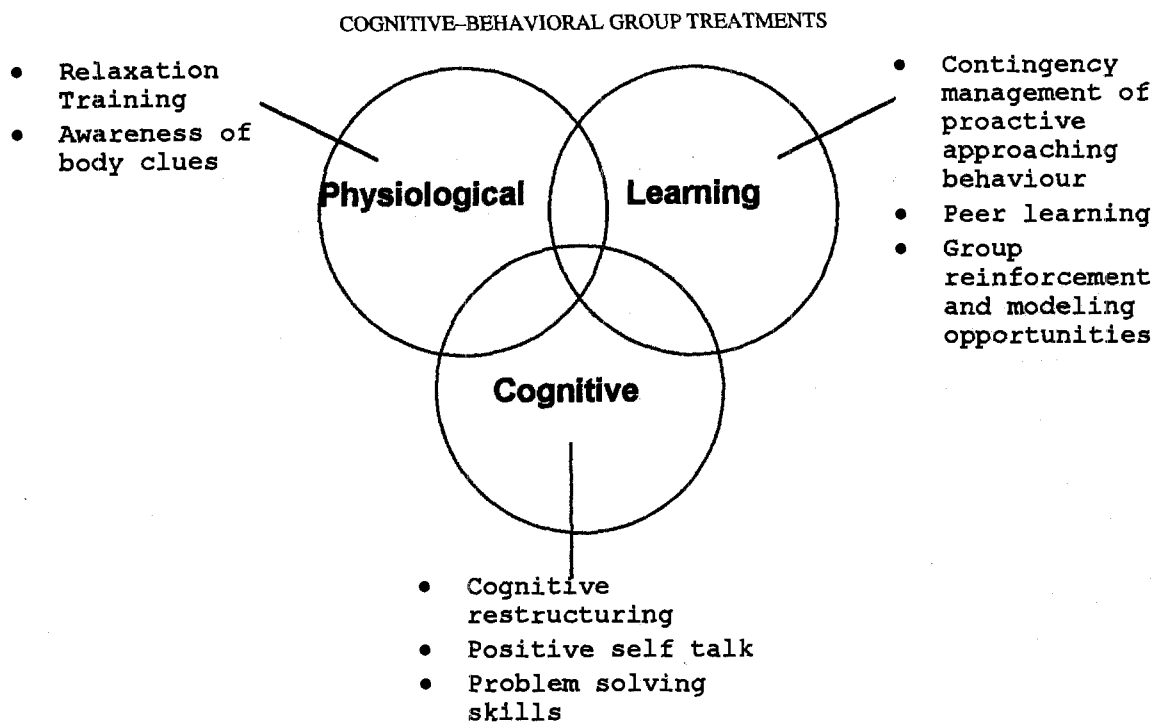


Figure 1. The underpinning psychosocial model of group family anxiety intervention.

management skills and sound knowledge of family and group processes during therapy. Such group processes include the need for the therapist to (a) encourage an equal level of participation from all group members, (b) reinforce positive, discrete individual behaviors and set those as examples to the rest of the group, (c) minimize negative input from any participant through planned ignoring, and (d) extinguish advise-giving and encourage individualized/family ways of developing coping strategies.

Figure 1 explains the underpinning theoretical models and specific therapeutic techniques used in the present intervention. These involve the age of specific CBT techniques targeting physiological, learning, and cognitive components of anxiety in children.

The group family intervention we evaluated incorporated a combination of three components (physiological, cognitive, and learning), and future research would benefit from assessing which specific family treatment and peer/group learning components enhanced effectiveness and whether families with identifiable characteristics respond differentially to the different components. Further studies also need to address developmental and age differences in response to different modalities of treatment. Perhaps younger children benefit more from a family intervention approach. Future studies could be improved by the inclusion of a placebo group in which equal therapist unstructured group play contact would be provided, to ascertain possible relationship effects.

Other considerations have to be taken into account when interpreting the results of the added GROUP-FAM treatment components. The benefits

documented in this study could simply be due to the adding of multiple treatments; the GROUP-FAM benefits could be interpreted with extra confidence if the study included another condition in which an adjunctive treatment was provided to GROUP-CBT that did not produce additional gains. It is possible that parents in the GROUP-FAM treatment were more motivated to provide a favorable rating of the outcomes associated with the extra family condition because of the extra effort they contributed in that condition. In general, families involved in the GROUP-FAM treatment condition gave very positive feedback about the opportunities to learn positive coping skills from each other and to develop support networks at posttreatment.

In conclusion, the provision of a structured group intervention for families improved outcomes in the cognitive-behavioral treatment of anxious children. Further research is needed to investigate specific group processes that may vary across diagnostic presentations and the possible differential impact of parental characteristics such as levels of parental anxiety, depression, and marital adjustment.

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