Cognitive–Behavioral Therapy for Anxiety Disordered Youth: A Randomized Clinical Trial Evaluating Child and Family Modalities

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This randomized clinical trial compared the relative efficacy of individual (child) cognitive–behavioral therapy (ICBT), family cognitive–behavioral therapy (FCBT), and a family-based education/support/attention (FESA) active control for treating anxiety disordered youth ages 7–14 years (M = 10.27). Youth (N = 161; 44% female; 85% Caucasian, 9% African American, 3% Hispanic, 3% other/mixed) with a principal diagnosis of separation anxiety disorder, social phobia, or generalized anxiety disorder and their parents participated. Outcome analyses were conducted using hierarchical linear models on the intent-to-treat sample at posttreatment and 1-year follow-up using diagnostic severity, child self-reports, parent reports, and teacher reports. Chi-square analyses were also conducted on diagnostic status at post and 1-year follow-up. Children evidenced treatment gains in all conditions, although FCBT and ICBT were superior to FESA in reducing the presence and principality of the principal anxiety disorder, and ICBT outperformed FCBT and FESA on teacher reports of child anxiety. Treatment gains, when found, were maintained at 1-year follow-up. FCBT outperformed ICBT when both parents had an anxiety disorder. Implications for treatment and suggestions for research are discussed.

Keywords: anxiety, children, treatment, cognitive–behavioral therapy, family therapy

The results from randomized clinical trials (RCTs) support the efficacy of child-focused cognitive–behavioral therapy (CBT) for treating anxious youth (e.g., Barrett, Dadds, & Rapee, 1996; Kendall et al., 1997). CBT for youth anxiety disorders produces medium to large effect sizes when compared with wait-list controls (Barmash & Kendall, 2005; Compton et al., 2004). A recent review indicated that 56% of anxious youth no longer met criteria for their principal anxiety disorder following CBT, and 63% no longer did at 6- to 12-month follow-up (Cartwright-Hatton, Roberts, Chitsaz-besam, Fothergil, & Harrington, 2004). According to criteria for empirically supported treatments (Chambless & Hollon, 1998), CBT for anxious youth is “probably efficacious” (e.g., Ollendick, King, & Chorpita, 2006).

A lingering question concerns whether increasing parent involvement in CBT could enhance the efficacy of CBT for anxious youth. Etiological models emphasize the reciprocal relationship between parent and child behavior in child anxiety (e.g., Chorpita & Barlow, 1998; Ginsburg & Schlossberg, 2002; Hudson & Rapee, 2004), and anxious children are more likely to have anxious parents whose behavior may maintain anxiety and avoidance (e.g., Last, Hersen, Kazdin, Francis, & Grubb, 1987). Parents may facilitate anxiety (avoidance, cognitive biases) through reinforcement and modeling (e.g., Barrett, Rapee, Dadds, & Ryan, 1996), and some familial variables have been associated with child CBT outcomes. For example, higher levels of parent anxiety predicted poorer youth outcomes after CBT (Berman, Weems, Silverman, & Kurtines, 2000; Crawford & Manassis, 2001; Southam-Gerow, Kendall, & Weersing, 2001). Increasing parent involvement in treatment may impact parents’ restriction of activity, overcontrol, and modeling of avoidance and/or cognitive bias (Ginsburg, Siqueland, Masia-Warner, & Hedtke, 2004; Wood, McLeod, Sigman, Hwang, & Chu, 2003). CBT combined with parent involvement, as opposed to the approach taken with wait-list controls, has demonstrated efficacy (e.g., Barrett, 1998; Shortt, Barrett & Fox, 2001; Silverman et al., 2003).
1999); however, studies comparing the relative efficacy of child-focused CBT with interventions combining child-focused CBT and increased parent involvement have yielded inconsistent findings (see Barmish & Kendall, 2005). In two studies, family-focused CBT produced greater improvement in anxiety than with individual-focused CBT (Barrett, Dadds, & Rapee, 1996; Wood, Piacentini, Southam-Gerow, Chu, & Sigman, 2006). Barrett, Duffy, Dadds, and Rapee (2001) reported superior results for CBT and family anxiety management versus CBT at posttreatment and at 12-month follow-up but not at 6-month or 6-year follow-up. Findings suggested that younger children and girls benefited more from the combined treatment than did older children and boys. Another study found no significant differences between child-focused CBT and child-focused CBT plus a seven-session parent training (Nauta, Scholing, Emmelkamp, & Minderaa, 2003). Four studies comparing child group CBT with child group CBT plus parent interventions reported equivocal outcomes, although one study reported significantly more coping and parent-reported gain in the parent–child treatment (Barrett, 1998; Cobham, Dadds, & Spence, 1998; Mendlowitz et al., 1999; Spence, Donovan, & Brechman-Toussaint, 2000). Cobham et al.'s (1998) findings suggest that children with an anxious parent benefited more from CBT that included parent anxiety management than from individual (ICBT), whereas children of nonanxious parents benefited from both treatments. Further studies are needed to clarify the incremental benefits of increased parent involvement in CBT and the family variables that moderate outcomes.

Identifying commonalities in the two studies favoring family CBT (FCBT) over ICBT (Barrett, Dadds, & Rapee, 1996; Wood et al., 2006) provides a base from which to design further research. Both studies implemented CBT with children (ages 6–14 years) who met criteria for separation anxiety disorder (SAD), generalized anxiety disorder (GAD), or social phobia (SP) in nongroup formats. Therapists met conjointly with parent and child for at least a portion of each session. Both FCBT treatments emphasized child-focused CBT strategies such as psychoeducation and that youth in this condition engaged in therapeutic exposures outside of treatment. Ginsburg and Drake (2002) compared an attention-support control condition with group CBT. Anxious adolescents in group CBT attained greater benefits than did those in attention support. These findings provide preliminary support for treatments containing information about anxiety reduction techniques and cognitive–behavioral strategies (Ginsburg & Drake, 2002).

The present study evaluated the relative efficacy of ICBT and FCBT in comparison to family-based education, support, and attention (FESA), an active comparison treatment, for anxiety disordered youth. As with other trials (e.g., Last et al., 1998; Silverman et al., 1999), FESA was modified for use with families (to control for family factors). All conditions were matched for therapy contact time. We hypothesized that ICBT and FCBT would produce significant change from pre- to posttreatment compared with FESA on child diagnostic status (fewer principal diagnoses; reduced severity). We also hypothesized significant reductions in anxious distress and improved child coping, as measured by child self-report and parent and teacher reports on the child. Maintenance of gains at 1-year follow-up was expected. Normative comparisons (Kendall, Marrs-Garcia, Nath, & Sheldrick, 1999) were used to evaluate the clinical significance of any observed gains, and age and gender were evaluated as potential moderators (e.g., FCBT better for younger participants, ICBT better for older participants). In addition, this study diagnosed parent psychopathology to examine whether (a) treatment produced changes in parental anxiety and (b) the presence of parental anxiety moderated child outcomes. It was hypothesized that parental anxiety would moderate child outcomes (less parental anxiety, better child outcomes).

Method

Participants

Community sources referred 161 youth diagnosed with a principal anxiety disorder and their parents between 2000 and 2006. Prior to data collection, a power analysis determined that a sample size of 44 was needed to detect moderate differences between conditions. Of the randomized cases, 55 were assigned to ICBT, 56 to FCBT, and 50 to the FESA condition. Treated participants came from a total of 231 potential participants (attrition included 5, 7, and 11 participants from ICBT, FCBT, and FESA, respectively; see Figure 1). Eligible children were ages 7–14, met diagnostic criteria, and agreed to the RCT. Exclusion criteria were: (a) psychotic symptoms, mental retardation, a disabling medical condition, the child’s participation in concurrent treatment, or the child’s taking antianxiety or antidepressant medications. At least one parent was required to be English speaking.

Of the 161 child participants, 44% were girls, 85% were Caucasian, 9% were African American, 3% were Hispanic, and 3% were self-identified as “other” or mixed race. Sixty-three percent were 7–10 years old, and 37% were 11–14. Eighty-eight children were diagnosed with a principal diagnosis of GAD, 47 with SAD, and 63 with SP, based on structured interviews. Composite diagnoses were computed using the “or” rule: The diagnosis was assigned if the child or parent reported the diagnosis and the clinician subsequently assigned a clinician...
severity rating (CSR) of 4 or greater. Twenty-four percent of children were comorbid with GAD, 32% with SAD, 37% with SP, 53% with specific phobia, 32% with attention-deficit/hyperactivity disorder, 14% with oppositional defiant disorder, 6% with dysthymia, and 5% with major depressive disorder. Few participants were comorbid with other diagnoses (e.g., 1 child met criteria for conduct disorder). Participants reported family income as below $20,000 (3%), up to $40,000 (13%), up to $60,000 (22%), up to $80,000 (26%), and above $80,000 (36%). Fathers and mothers did not complete high school (4% and 1%, respectively), were high school graduates without college (30% and 26%), had some college education (19% and
Setting and Personnel

All procedures were internal review board–approved and were conducted at the Child and Adolescent Anxiety Disorders Clinic (CAADC), Temple University. Doctoral candidates in clinical psychology conducted structured diagnostic interviews and assessments. The ICBT, FCBT, and FESA conditions were implemented by master’s-level therapists with 2–3 years of experience at the CAADC and doctoral-level psychologists, with supervision by doctoral-level psychologists with 6–7 years of experience in the community. All therapists for each condition studied written materials (manuals) and participated in training (typically two 3-hr workshops) before initiating supervised pilot experience. Workshops included didactic presentation, role plays, trainee demonstration, videotape playback, and discussion. Following training, and continuing throughout, all therapists participated in weekly 2-hr supervision groups.

Measures

Primary outcomes were evaluated via changes in principal diagnoses and severity ratings. Other outcomes included anxiety and internalizing symptoms (self-, parent, and teacher report) and child coping. Clinical significance was addressed via normative comparisons.

Child Psychopathology

Anxiety Disorders Interview Schedule for Children (ADIS-CP; Silverman & Albano, 1996). Children’s anxiety was assessed using the ADIS-CP for the Diagnostic and Statistical Manual (4th ed.; DSM–IV American Psychiatric Association, 1994) disorders. This is a semistructured interview with established reliability and convergent validity. Experienced diagnosticians trained independent evaluators by observing practice administrations with clients, providing feedback/supervision, and monitoring performance with reliability assessments. Trainees were required to reach and maintain interrater diagnostic reliability of .85 (Cohen’s κ). Training prepared independent evaluators to provide ratings on the ADIS-CP clinician severity rating (Silverman & Albano, 1996) regarding the severity of the child’s anxiety (0 = not at all, 4 = some, 8 = very, very much).

Children’s Self-Report Measures

Multidimensional Anxiety Scale for Children (MASC; March, Parker, Sullivan, Stallings, & Conners, 1997). Children responded to the MASC, a 39-item scale with excellent internal consistency (α = .86) and strong convergent validity that assesses children’s anxiety symptoms. The scale assesses four factors: physical symptoms, social anxiety, harm avoidance, and separation anxiety. The scale has children report how they have been thinking, feeling, or acting over the last 2 weeks on a scale of 1 (never) to 4 (often).

Coping Questionnaire–Child (CQ-C; Kendall & Marrs-Garcia, 1999). The CQ-C, which assesses a child’s sense of coping with anxious distress in three challenging situations, is rated on a scale of 1 (not at all able to help) to 7 (totally able to help myself). The three items are summed for a total score. For the measure to be relevant, situational abilities, and individualized, three areas of difficulty for each child are chosen from the information in the diagnostic interview. Analyses indicate adequate internal consistency and strong retest reliability and document its usefulness as a measure of improvement.

Parent and Teacher Reports of Child Functioning

Child Behavior Checklist (CBCL; Achenbach, 1991; Achenbach & Edelbrock, 1991). The CBCL is a 118-item checklist. Parents report whether their child displays various behaviors by circling 0 (not true), 1 (somewhat/sometimes), or 2 (very/often true). The measure generates T scores that reflect a child’s status relative to others of the same gender and age (e.g., internalized distress). Respondents with a T score of ≥ 65 can be in need of treatment. Validity, internal consistency, and retest reliability have been documented (Achenbach & Rescorla, 2001). Kendall et al. (2007) developed a specific anxiety scale, the CBCL-A, using 19 CBCL items. The CBCL-A distinguishes between children with and without anxiety disorder and in our study was sensitive to treatment. Favorable retest reliability, interrater reliability, and internal consistency were reported for the CBCL-A.

Teacher Report Form (TRF; Achenbach, 1991; Achenbach & Edelbrock, 1986). The primary teacher rated the child’s classroom functioning on the TRF. The TRF mirrors the parent CBCL. As with the CBCL, a TRF-A has been identified (Kendall et al., 2007) to assess specific anxiety symptoms. The TRF has high retest reliability and moderate interrater agreement and discriminates between referred and nonreferred children (Achenbach, 1991).

Coping Questionnaire–Parent (CQ-P; Kendall & Marrs-Garcia, 1999). The CQ-P parallels the children’s version (CQ-C) described earlier. The parent rates the child’s ability to cope with the three most anxiety-provoking situations identified from the structured interview on a scale from 1 (not at all able to help) to 7 (totally able to help him/herself). The scale has demonstrated moderate interrater agreement and sensitivity to treatment effects.

Parent Psychopathology

Anxiety Disorder Interview Schedule for DSM–IV, Lifetime Version (ADIS-IV-L; DiNardo, Brown, & Barlow, 1994). The ADIS-IV-L is a semistructured interview to diagnose current and past episodes of adult anxiety disorders. The instrument includes assessments of current and past mood, somatoform, and substance use disorders and provides a timeline to assess the duration and onset of current and past episodes. Evaluators rate the severity of the individual’s diagnosis on a scale of 0 to 8, with 4 indicating a diagnosable disorder. Reliable and favorable psychometric properties have been reported (DiNardo, Brown, Lawton, & Barlow, 1997; DiNardo, Moras, Barlow, Rapee, & Brown, 1993).

In-Therapy Measures

Child’s Perception of Therapeutic Relationship (CPTR; Kendall et al., 1997). This seven-item, 5-point scale assesses participants’ perceptions of the quality of the therapeutic relationship
(e.g., items relate to how much the parent or child liked, felt close to, could talk to, and wanted to spend time with the therapist). There are 10 items, but 3 are fillers. Included to index the therapist–child relationship across treatment conditions, this measure was administered to participants after each session by a diagnostician (not by the child’s therapist).

**Procedure**

Cases were referred through multiple sources including clinics and practitioners, public/nonpublic schools, media descriptions, and flyers. Parent(s) participated in a brief phone screen. Within a week, clinic staff contacted the parent(s) to arrange an intake. At intake, parents and children signed informed consent forms (e.g., understanding random assignment). Independent evaluators administered diagnostic interviews separately to parent(s) and child. To determine the child’s principal (and secondary) diagnoses, we used the composite approach recommended in the ADIS-CP (integration of child and parent report). If a child met inclusion criteria, parents completed the ADIS-IV-L within the same week to diagnose current and past adult anxiety disorders. Parents and children then completed self-report forms. Parents asked teachers to complete the TRF; however, when necessary and with permission, staff contacted teachers. Parents provided the names, phone numbers, and addresses of two people closest to the family to facilitate follow-up contact. Following assessment, the coordinator used a predetermined schedule (random number–generated) to randomly assign eligible participants to ICBT, FCBT, or FESA. Restricted randomization was used to balance participants across conditions. To control for potential therapist factors, we randomly assigned cases to therapists (who were trained in all treatments). Referrals were made for cases that did not meet study criteria.

Therapists implemented the conditions using manuals, applied with flexibility to address individual differences. All sessions for all conditions were videotaped. Participants participated in assessments including structured diagnostic interviews and questionnaires at posttreatment and 1-year follow-up. Session measures were done weekly.

Strategies were used to help ensure that posttreatment and follow-up diagnosticians (independent evaluators) would be blind to treatment condition. The coordinator (not the primary investigator or a therapist or diagnostician) held the key to the blind. Therapists and diagnosticians did not overlap. Also, independent evaluators were isolated from discussions of treatment cases, and a sign was placed on the table during posttreatment and follow-up evaluations instructing participants not to talk about the services they had received or about their therapists. FESA participants who met diagnostic criteria for an anxiety disorder at posttreatment were offered additional services (i.e., ICBT or FCBT).

**Treatment Methods**

All three treatments followed manuals and included 16 weekly 60-min sessions (equalizing therapist contact). ICBT was conducted individually with the child, whereas FCBT and FESA were carried out with the child and both parents. ICBT and FCBT had two 8-session parts. The first provided psychoeducation and taught skills to the child/family, whereas the second provided the child/family with the chance to practice new skills in exposure tasks.

FESA provided therapeutic support and attention to the families and education about anxiety for 16 sessions. All treatments included education about youth anxiety, but only ICBT and FCBT taught skills to manage anxious distress and included exposure tasks.

**Individual Cognitive–Behavioral Therapy (ICBT).** Therapists followed a CBT for anxious children therapist manual (see Kendall & Hedtke, 2006a) and used the *Coping Cat Workbook* (see Kendall & Hedtke, 2006b) to facilitate child interest and involvement in treatment. ICBT taught youth skills to manage anxiety using the FEAR acronym: (a) recognizing anxious feelings and somatic reactions to anxiety (i.e., Feeling frightened?), (b) identifying anxious cognition (i.e., Expecting bad things to happen?), (c) developing a plan to cope with the situation that included modifying anxious self-talk and engaging in coping behavior (i.e., Actions and attitudes that can help), and (d) evaluating performance and self-reward (i.e., Results and rewards). ICBT used behavioral strategies such as modeling, imaginal and in vivo exposure tasks, role play, relaxation training, and contingent reinforcement. Homework tasks were assigned to the child. Therapists met individually with the child for 14 (of 16) sessions and with parents at Sessions 4 and 9. Parent sessions provided the therapist with an opportunity to inform the parents about treatment and the child’s progress, collect information, and answer questions. Therapists provided psychoeducation regarding youth anxiety and coached parents on ways of responding to their particular child’s anxious behavior.

**Family Cognitive–Behavioral Therapy (FCBT).** Therapists followed a family CBT for anxious children manual (Howard, Chu, Krain, Marrs-Garcia, & Kendall, 2000) and used the *Coping Cat Workbook* as in ICBT. FCBT integrated ICBT within a family view of child anxiety. As with ICBT, the FCBT approach taught youth skills to manage their anxiety using the FEAR acronym, implemented behavioral strategies (e.g., contingent reinforcement, exposure tasks), and assigned “Show-That-I-Can” tasks. In addition, FCBT aimed to modify maladaptive parental beliefs and expectations, teach parents constructive responses to their child’s anxious distress, encourage parents to support the child’s mastery, and teach parents and children effective communication skills. When parents were themselves anxious, they were encouraged to apply the skills taught in therapy to cope with their own distress. In this way, parents were active members of the treatment process and were expected to engage in all therapeutic activities. At Sessions 4 and 9 the therapist met with the parents and child separately to provide them with a private opportunity to discuss issues with the therapist.

**Family Education/Support/Attention (FESA).** Therapists followed a manual for family education, support, and attention for anxious children (Krain, Hudson, Choudhury, & Kendall, 2000; see also Silverman et al., 1999) and used a workbook to add child interest/involvement. FESA controlled for “common factors” (e.g., learning about anxiety/emotions, experience with an understanding therapist, attention to the child’s anxiety) by providing these components in a family context. As with the FESA manual, children and their parents were taught about emotions in general and anxiety in particular, given various theories of anxiety (e.g., behavioral, biological), and provided with opportunities to discuss the child’s anxiety. Although parents and children were provided with psychoeducation regarding youth anxiety, they were not
given directions on how to respond to or manage the child’s anxiety (e.g., not taught the FEAR plan). As with FCBT, parents were considered active members of the treatment and were expected to engage in therapeutic activities. The therapist met with parents and children separately at Sessions 4 and 9 to provide a private opportunity to discuss issues with the therapist.

**Treatment Integrity**

Raters used a checklist and rated a randomly selected 15-min videotape segment from 30% of randomly selected cases from each condition. The checklist had the content/strategies called for in sessions by the manual. Raters were trained as follows: The primary investigator listened to eight tapes with each rater and explained the ratings; the primary investigator and raters rated new tapes and reached a criterion of at least .85 (Cohen’s κ). Four unannounced reliability checks covering half of the total ratings were made. All raters met the .85 criterion on reliability checks.

Using the checklist, experienced therapists rated 14% of the sessions, indicating whether appropriate content was covered. The randomly selected tapes were representative of all sessions, conditions, and therapists. A ratio was computed: the number of checklist items covered by the therapist relative to the total number of items that should have been included. Results showed that 91%, 92%, and 85% of intended content was covered in ICBT, FCBT, and FESA, respectively. Results indicated a significant main effect for condition, F(2, 277) = 7.88, p < .001, η² = .04; Tukey’s HSD test indicated that the percentage of content coverage between ICBT and FESA and between FCBT and FESA was significantly different. Twenty therapists, trained in all of the conditions, administered treatment (no differential therapist effects).

**Results**

Preliminary analyses involved group comparisons to determine equivalence across the three conditions and to determine equivalence between the intent-to-treat and treatment completers samples. Chi-squared analyses were conducted to evaluate child’s diagnostic outcomes across the three conditions. Hierarchical linear or mixed models containing random factors for subject, fixed effects for treatment condition (ICBT, FCBT, FESA), and time (pre, post and follow-up) were fitted to diagnostic severity and to child-, mother-, and father-reported symptom measures.1

Though not reported here, Condition × Time analyses of variance (ANOVA)s results, to a large degree, were highly consistent with the results reported. Mixed model analyses testing age and gender effects were also conducted (note: main effects of age and gender, and the interactions Time × Age and Time × Gender, were not of interest). Bonferroni corrections were used when appropriate. Effect sizes were calculated as the estimated fixed effect divided by the square root of the sum of the two variance components in the mixed model. To assess clinical significance, we conducted normative comparisons on parent- and teacher-report measures. In addition to child diagnostic outcomes, parental diagnostic status was examined for (a) change following treatment and (b) moderating child outcomes. Finally, an integrity check on the FESA condition was performed. Analyses were conducted using all randomized cases (intent-to-treat analyses); analyses were also conducted for those cases that completed treatment. Perhaps due to the low attrition, comparable results were consistently found for both sets of analyses; thus, only the intent-to-treat analyses are reported.

**Group Comparability**

Analyses revealed no significant pretreatment differences across conditions (i.e., ICBT, FCBT, FESA) on key demographic and outcome variables (see Table 1).2 Analyses of demographic and dependent variables examined pretreatment differences between treatment completers and noncompleters. The only significant difference between these groups was the number of diagnoses. ANOVA indicated that noncompleting children had more diagnoses at pretreatment (M = 4.17, SD = 1.95) than did completers (M = 3.36, SD = 1.63), F(1, 159) = 4.68, p < .05, η² = .03. ANOVA on CPTR scores indicated no significant differences among children’s perceptions of the therapeutic relationship across conditions.

**Child Diagnostic Status**

Diagnostic outcomes were analyzed by examining the number of pretreatment principal diagnoses by condition that were (a) no longer principal at posttreatment or (b) no longer present at posttreatment (i.e., CSR < 4).3 Using chi-squares, we found that 64%, 64%, and 42% of principal diagnoses in ICBT, FCBT, and FESA, respectively, were no longer principal at posttreatment. Further analyses indicated that the differences between the ICBT and FESA, χ²(1, N = 129) = 6.08, p < .02, and between FCBT and FESA, χ²(1, N = 126) = 5.90, p < .02, were significant. Analyses also indicated that 57%, 55%, and 37% of pretreatment principal diagnoses (ICBT, FCBT, FESA, respectively) were no longer present at posttreatment. ICBT–FESA differences and FCBT–FESA differences were significant. No significant differences in diagnostic outcomes were found for gender or age (with youth categorized developmentally as 7–10 years and 11–14 years).

Maintenance analyses included those cases that completed the evaluations. Data interpretations focus on changes from pretreatment to follow-up and not the absence of change from posttreatment to follow-up (i.e., null hypothesis). To examine maintenance of outcomes, we checked the number of child pretreatment principal disorders that were no longer principal at follow-up. Results indicated that 67%, 64%, and 46% of principal diagnoses were at Level 2 of the model.

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1 The data were analyzed with a random-intercept model of the form: Yij = B0ij + B1.jij + B2.ij + B3ij + B4ij0 + B5ij1 + B6ij2 + B7ij3 + B8ij4 + B9ij5 + B10ij6 + B11ij7 + B12ij8 + B13ij9 + B14ij10 + B15ij11 + B16ij12 + B17ij13, where B0ij is the intercept term, B1,jij is made up of the fixed term, B2.ij and random variation due to subjects, B3ij and random variation due to subjects, B4ij0 and random variation due to subjects, B5ij1 and random observations over time, B6ij2 + B7ij3 + B8ij4 + B9ij5 and i indexes subjects, and j indexes observations within subjects. Terms with the subscript ij are at Level 1 of the multilevel model, while those with subscript j are at Level 2 of the model.

2 For 58% and 61% of FCBT and FESA sessions, respectively, both parents were in attendance; the difference was not significant.

3 Note that for these analyses, the N is larger than the number of participants, given that several children had more than one principal diagnosis (i.e., some diagnoses had equal CSR ratings and thus were considered “coprincipal”).
in ICBT, FCBT, and FESA, respectively, continued to not be principal disorders at follow-up. This difference was significant, \(\chi^2(2, N = 198) = 6.62, p < .05\). Analyses revealed that 61%, 58%, and 44% of principal diagnoses in ICBT, FCBT, and FESA, respectively, remained “not present” at follow-up. The difference across conditions was not significant. FESA participants who continued to meet diagnostic criteria at posttreatment were offered other services, reducing the number of FESA participants at follow-up. Follow-up data for all participants include the last observation carried forward (see Table 2).

A mixed model was fitted to anxiety diagnosis CSRs at pre, post, and follow-up showing a significant effect for time, \(F(2, 256) = 220.47, p = .00\), and a nonsignificant condition effect, \(F(2, 164) = 0.68, p = .51\). The Condition \(\times\) Time interaction was significant, \(F(4, 255) = 2.41, p = .05\). Tables 3 and 4 provide the slopes and intercepts for the model and the means for the variable, respectively. FESA children showed significantly less reductions in CSRs from pre to post compared with ICBT children and FCBT children. There were no significant differences between ICBT and FCBT, and no significant differences between pre and follow-up or between post and follow-up for any of the three conditions.

### Child Self-Reports

Mixed models were fitted to child-reported anxiety (MASC total score) and child-reported coping (CQ-C). Both models showed a significant time effect whereby children reported significant reductions in anxiety from pre to post, pre to follow-up, and post to follow-up. The condition effect and the Time \(\times\) Condition interaction were not significant, nor were the effects for age and gender. Children reported significant reductions in self-reported anxiety (MASC) from pre to post, \(t(233) = 6.48, p = .00\), from pre to follow-up, \(t(247) = 8.09, p = .00\), and from post to follow-up, \(t(246) = 2.69, p = .008\). Similarly, children reported significant gains in coping from pre to post, \(t(233) = 8.43, p = .00\), from pre to follow-up, \(t(259) = 10.59, p = .00\), and from post to follow-up, \(t(260) = 3.41, p = .001\). See Tables 3 and 4 for the slopes and intercepts for the model and means for the variable, respectively.

### Parent and Teacher Reports on Child

Mixed models fitted to mother-reported CBCL-Internalizing \(T\) score (CBCL-Int), anxiety symptoms (CBCL-A), and coping (CQ-P) showed a significant time effect with significant improvements in symptoms from pre to post, pre to follow-up, and post to follow-up (see Tables 4 and 5). More specifically, mothers reported significant decreases in internalizing symptoms from pre to post, \(t(232) = 8.01, p = .00\), from pre to follow-up, \(t(243) = 11.76, p = .00\), and from post to follow-up, \(t(243) = 5.22, p = .00\). Mothers also reported significant reductions in anxiety symptoms from pre to post, \(t(215) = 9.07, p = .00\), from pre to follow-up, \(t(226) = 12.3, p = .00\), and from post to follow-up, \(t(225) = 4.75, p = .00\). Similarly, mothers reported a significant change in child...
coping from pre to post, t(217) = 8.69, p = .00, from pre to follow-up, t(240) = 11.82, p = .00, and from pre to post-follow-up, t(242) = 4.27, p = .00. The condition effect and the Condition × Time interaction were not significant for mother-reported symptoms, nor were the effects of age and gender.

Mixed models were fitted to father-reported internalizing symptoms (CBCL-Int), anxiety symptoms (CBCL-A), and coping (CQ-P; see Table 5). Consistent with mother-reported symptoms, all three models produced a time effect (see Table 4) but no significant effects for condition and Condition × Time. There were no other significant gender or age effects.

Mixed models were fitted to teacher-reported internalizing symptoms (TRF-Int) and anxiety symptoms (TRF-A; see Table 3). Both models yielded a significant Time × Condition interaction (see Table 4). Analyses from both dependent variables showed that ICBT resulted in greater symptom reduction compared with FCBT between pre and post but not between pre and follow-up or post and follow-up. ICBT and FCBT both outperformed FESA when comparing teacher reported symptoms between pre and follow-up. Also, only FCBT children showed significantly greater gains from post to follow-up compared with FESA children. There were no significant age or gender effects.

More specifically, ICBT children showed a greater reduction in teacher-rated internalizing (TRF-Int) from pre to post compared with FCBT children (see Figure 2). There were no significant differences in the change of teacher-reported internalizing symptoms (TRF-Int) from pre to post between ICBT and FESA or between FCBT and FESA. FESA children showed less change from pre to follow-up in internalizing symptoms compared with ICBT children and FCBT children. There was no significant difference in the change of internalizing symptoms from pre to follow-up between FCBT and ICBT. Post to follow-up contrasts showed no significant differences in the change in internalizing symptoms between ICBT and FCBT children or between ICBT and FESA children. However, children in the FCBT condition showed significantly greater improvements from post to follow-up compared with children in the FESA condition (see Tables 3 and 4).

Regarding the time effect for teacher-reported anxiety symptoms (TRF-A), ICBT children showed a greater reduction in teacher-reported anxiety from pre to post compared with both FCBT and FESA children (see Figure 2). There was no significant difference in the change in anxiety symptoms from pre to post between FCBT and FESA (see Table 3). Pre to follow-up contrasts revealed that FESA children showed less change in anxiety symptoms compared with ICBT children. There was no significant difference between pre and follow-up between FCBT and ICBT or between FCBT and FESA. Post to follow-up contrasts showed no significant differences in the change in anxiety symptoms between ICBT and FCBT or between ICBT and FESA children. FCBT children showed significantly greater gains from post to follow-up compared with FESA children (see Tables 3 and 4).

### Normative Comparisons

To assess clinical significance, defined as changes that return participants’ deviant scores to within nondeviant limits, we ran normative comparisons (Kendall et al., 1999) using the CBCL and TRF clinical cutoff (T ≥ 65). As seen in Table 6, there were no significant differences in the proportions of children exceeding the normative limit versus returning to within the normative limit at posttreatment for participants whose mothers reported a pretreatment CBCL-Int T ≥ 65 (N = 91). A chi-square analysis of those participants whose teachers reported a pretreatment TRF-Int T ≥ 65 (N = 45) revealed no significant differences among conditions. However, a chi-square analysis of participants whose fathers reported a pretreatment CBCL-Int T ≥ 65 (N = 47) revealed significant differences among treatment conditions, χ²(2, N = 47) = 6.94, p < .05. Further analysis revealed that the percentage of FESA participants remaining above the cutoff was significantly higher than for either ICBT, χ²(1, N = 31) = 5.55, p < .05, or FCBT, χ²(1, N = 28) = 5.25, p < .05.

### Parental Diagnostic Status

The number of anxiety disorders present at pretreatment but absent (i.e., CSR < 4) at post were examined for mothers and fathers. Analyses examined the number of diagnoses, not participants, across conditions because inclusion criteria did not specify specific disorders for parents and several parents met criteria for more than one anxiety disorder.

## Table 2

### Diagnostic Information at Pre- and Posttreatment and Follow-Up

<table>
<thead>
<tr>
<th>Measure</th>
<th>ICBT Pre</th>
<th>ICBT Post</th>
<th>FESA Pre</th>
<th>FESA Post</th>
<th>FESA Follow-up</th>
<th>Significance test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of principal diagnoses no longer principal</td>
<td>64</td>
<td>67</td>
<td>64</td>
<td>64</td>
<td>42</td>
<td>46</td>
</tr>
<tr>
<td>Percentage of principal diagnoses no longer present</td>
<td>57</td>
<td>61</td>
<td>55</td>
<td>58</td>
<td>37</td>
<td>44</td>
</tr>
<tr>
<td>Estimated marginal means for total CSR (SD)</td>
<td>14.05 (0.93)</td>
<td>6.89 (0.93)</td>
<td>5.05 (1.06)</td>
<td>15.46 (0.92)</td>
<td>7.68 (1.07)</td>
<td>5.78 (0.98)</td>
</tr>
</tbody>
</table>

Note. ICBT = individual cognitive–behavioral therapy; FCBT = family cognitive–behavioral therapy; FESA = family-based education/support/attention; Pre = pretreatment; Post = posttreatment; Follow = 1-year follow-up; CSR = clinician severity rating.

*a Significant differences at posttreatment.

**p < .05.**

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Mothers’ Anxiety Disorder

Mothers (N = 161) participated (55, 56, and 50 in ICBT, FCBT, and FESA, respectively) in the study. Sixty-one mothers (37.9%) had at least one anxiety disorder, and collectively they were diagnosed with a total of 85 anxiety disorders (37 in ICBT, 24 in FCBT, and 24 in FESA). The number of mothers having at least one anxiety disorder was 25 in ICBT, 21 in FCBT, and 15 in FESA. Of the pretreatment maternal anxiety disorders, 43.2% (16/37) were absent (i.e., CSR < 4) at post in ICBT, 45.8% (11/24) in FCBT, and 20.8% (5/24) in FESA. Chi-square analyses found no significant differences among the conditions. Eight new maternal anxiety disorders were evident at posttreatment (2, 4, and 2 in ICBT, FCBT, and FESA, respectively).

In an examination of maternal anxiety disorders present at post-treatment, 28.6% (4/14, with 9 missing at follow-up) of these were absent at follow-up in ICBT, 33.3% (2/6, with 11 missing at follow-up) in FCBT, and 62.5% (5/8, with 13 missing at follow-up) in FESA. Chi-square analyses determined no significant differences. One new maternal anxiety disorder was seen at follow-up.

These results suggest that the three treatment conditions had some, but minimal, impact on maternal anxiety status, with 62% of maternal anxiety disorders still present at post and 61% at follow-up. The three treatments were equivalent in their impact.

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Fathers’ Anxiety Disorders

Of 129 fathers (44, 41, and 44 in ICBT, FCBT, and FESA, respectively), 24 (18.6%) had at least one anxiety disorder, and together they were diagnosed with 34 anxiety disorders (8 in ICBT, 12 in FCBT, and 14 in FESA). In an examination of fathers’ anxiety disorders at pretreatment, 66.7% (4/6, with 2 missing at post) of these were absent at post in ICBT, 27.3% (3/11, with 1 missing at post) in FCBT, and 36.4% (4/11, with 3 missing at post) in FESA. Three new paternal anxiety disorders were evident at post (0, 1, and 2 in ICBT, FCBT, and FESA, respectively). Chi-square analyses could not be
conducted due to sample size limitations. Missing data on fathers at follow-up precluded testing paternal anxiety disorders at the follow-up. Similar to maternal anxiety disorders, the three treatments had minimal impact on paternal anxiety disorders, with 61% of paternal anxiety disorders still present at post.

Influence of Parents’ Diagnostic Status on Child Outcomes

Do parental anxiety disorders moderate child treatment outcomes? Analyses were conducted separately comparing mothers with and without anxiety disorders, fathers with and without anxiety disorders, and both parents with and without anxiety disorders.4

Child Diagnostic Status

Chi-square analyses revealed no significant differences between the proportion of children retaining their principal disorder at posttreatment in the following comparisons: anxiety disordered (AD) mothers versus anxiety-free mothers; AD fathers versus anxiety-free fathers; or AD fathers and mothers versus anxiety-free mothers and fathers.4

Table 4

Means and Standard Deviations for Child, Parent, and Teacher Reports

<table>
<thead>
<tr>
<th>Measure</th>
<th>Treatment conditions</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>MASC</td>
<td>ICBT</td>
<td>F</td>
</tr>
<tr>
<td></td>
<td>Post</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Follow-up</td>
<td></td>
</tr>
<tr>
<td>SD</td>
<td>ICBT</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Post</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Follow-up</td>
<td></td>
</tr>
<tr>
<td>CQ-C</td>
<td>ICBT</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Post</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Follow-up</td>
<td></td>
</tr>
<tr>
<td>SD</td>
<td>ICBT</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Post</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Follow-up</td>
<td></td>
</tr>
<tr>
<td>CQ-P</td>
<td>ICBT</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Post</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Follow-up</td>
<td></td>
</tr>
<tr>
<td>SD</td>
<td>ICBT</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Post</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Follow-up</td>
<td></td>
</tr>
<tr>
<td>CQ-P</td>
<td>ICBT</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Post</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Follow-up</td>
<td></td>
</tr>
<tr>
<td>SD</td>
<td>ICBT</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Post</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Follow-up</td>
<td></td>
</tr>
</tbody>
</table>

Note. CBCL-Int and TRF-Int data are reported in T scores. ICBT = individual cognitive–behavioral therapy; FCBT = family cognitive–behavioral therapy; FESA = family-based education/support/attention; Pre = pretreatment; Post = posttreatment; Follow = 1-year follow-up. MASC = Multidimensional Anxiety Scale for Children; CQ-C = Coping Questionnaire-Child; CBCL-Int = Child Behavior Checklist-Internalizing; CBCL-A = Child Behavior Checklist-Anxiety; CQ-P = Coping Questionnaire-Parent; TRF-Int = Teacher Report Form-Internalizing; TRF-A = Teacher Report Form-Anxiety.

*p < .05. **p < .01.
Table 5
Effects of ICBT, FCBT, and FESA for Mother- and Father-Report Measures Across Time

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mother reports</th>
<th>Father reports</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CBCL-Int (B (SE)) d</td>
<td>CBCL-A (B (SE)) d</td>
</tr>
<tr>
<td>Fixed effects</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercepts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept: FESA at pre</td>
<td>65.06 (1.33)***</td>
<td>13.10 (0.80)***</td>
</tr>
<tr>
<td>FESA-ICBT at pre</td>
<td>2.40 (1.86)</td>
<td>1.62 (1.13)</td>
</tr>
<tr>
<td>FESA-FCBT at pre</td>
<td>3.28 (1.87)</td>
<td>-1.07 (1.13)</td>
</tr>
<tr>
<td>Pre to post slope Control</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control slope: FESA</td>
<td>-3.89 (1.29)</td>
<td>-2.74 (0.75)</td>
</tr>
<tr>
<td>FESA vs. ICBT</td>
<td>-1.59 (1.81)</td>
<td>-0.94 (1.06)</td>
</tr>
<tr>
<td>FESA vs. FCBT</td>
<td>-4.4 (1.81)</td>
<td>-2.85 (1.07)</td>
</tr>
<tr>
<td>Pre to follow-up slope</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control slope: FESA</td>
<td>-9.55 (1.79)**</td>
<td>-5.01 (1.04)**</td>
</tr>
<tr>
<td>FESA vs. ICBT</td>
<td>-0.86 (2.31)</td>
<td>-1.50 (1.35)</td>
</tr>
<tr>
<td>FESA vs. FCBT</td>
<td>-2.65 (2.36)</td>
<td>-2.82 (1.36)†</td>
</tr>
<tr>
<td>[Pre to post slope]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ICBT vs. FCBT</td>
<td>-2.82 (1.80)</td>
<td>-1.90 (1.07)†</td>
</tr>
<tr>
<td>[Pre to follow-up slope]</td>
<td>-1.79 (2.12)</td>
<td>-1.31 (1.22)</td>
</tr>
<tr>
<td>[Post to follow-up slope]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control slope: FESA</td>
<td>-5.66 (1.80)</td>
<td>-2.27 (1.05)</td>
</tr>
<tr>
<td>FESA vs. ICBT</td>
<td>0.73 (2.33)</td>
<td>-0.56 (1.36)</td>
</tr>
<tr>
<td>FESA vs. FCBT</td>
<td>1.76 (2.37)</td>
<td>0.03 (1.37)</td>
</tr>
<tr>
<td>ICBT vs. FCBT</td>
<td>1.03 (2.14)</td>
<td>0.59 (1.24)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Random effects</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level 1: Residual variance</td>
<td>39.65***</td>
<td>12.56***</td>
</tr>
<tr>
<td>Level 2: Intercept variance</td>
<td>49.98***</td>
<td>18.71***</td>
</tr>
</tbody>
</table>

Note. Analyses reported within brackets indicate additional mixed models conducted to enable all comparisons to be reported. These analyses resulted in different intercepts. ICBT = individual cognitive–behavioral therapy; FCBT = family cognitive–behavioral therapy; FESA = family-based education/support/attention; CBCL-Int = Child Behavior Checklist–Internalizing; CBCL-A = Child Behavior Checklist–Anxiety; CQ-P = Coping Questionnaire–Parent; pre = pretreatment; post = posttreatment.

* p < .10; ** p < .05; *** p < .01.
versus anxiety-free fathers and mothers. At follow-up, a significantly higher percentage of children with AD mothers (43.2%) versus children with anxiety-free mothers (20.8%) retained their principal diagnosis, $\chi^2(1, N = 116) = 6.58, p = .01$. Analyses of (a) children with AD fathers versus anxiety-free fathers and (b) anxiety disorders in both parents versus neither parent revealed no significant differences.

**Child, Parent, and Teacher Reports**

When maternal anxiety status was fitted to mixed models for the MASC, there was a nonsignificant main effect and no significant two- or three-way interactions between maternal anxiety status and time and condition. When paternal anxiety status was fitted to the MASC, there was a significant three-way interaction, $F(6, 190) = 2.88, p = .01$. For children with a nonanxious father, there were no significant differences between any of the three conditions across time: test of overall interaction contrasts, $F(4, 161) = 0.57, p = .68$. However, ICBT children with an anxious father showed significantly less change from pre to follow-up than did children in the FCBT condition, $t(25) = 5.4, p = .000$, and the FESA condition, $t(25) = 3.65, p = .001$ (change: ICBT: $M = -9.47, SE = 4.94$; FCBT: $M = 34.75, SE = 6.53$; FESA: $M = 20.06, SE = 6.4$). Similarly, children with an anxious father who received ICBT showed significantly less change from post to follow-up compared with FCBT children, $t(25) = 4.36, p = .00$, and FESA children, $t(24) = 2.79, p = .01$ (change: ICBT: $M = -9.0, SE = 4.98$; FCBT: $M = 28.33, SE = 6.96$; FESA: $M = 13.75, SE = 6.46$). There were no significant differences between the three conditions between pre and post, and no significant differences between FCBT and FESA between pre and follow-up and post and follow-up ($p$s $>.14$).

Does having two anxious parents impact the child’s treatment? When both parents’ anxiety status was included in the model for child-reported anxiety (i.e., MASC) the result approached significance: interaction of Parental Anxiety × Time × Condition, $F(6, 226) = 2.02, p = .06$.

There was a significant interaction of Time × Maternal Anxiety, $F(2, 232) = 3.17, p < .05$, when a mixed model was fitted to CBCL-Int. Follow-up interaction contrasts indicated that children with an anxious mother showed less CBCL-Int improvement from pre to follow-up compared with children with nonanxious mothers, $t(239) = 2.46, p = .015$. There was no significant difference in
improvement between children with and without anxious mothers between pre and post or between post and follow-up (p > .14). The interaction of Condition × Time × Maternal Anxiety was not significant.

There were nonsignificant effects for maternal anxiety on father-reported CBCL-Int and for paternal anxiety on the CBCL-Int (mother or father report). When both parents’ anxiety status was examined, there was a nonsignificant interaction of Time × Condition × Parent Anxiety Status for mother-reported CBCL-Int. There were nonsignificant effects for maternal and paternal anxiety status on the TRF-Int.

**FESA Integrity Check**

Two independent procedures examined the degree to which the FESA condition consisted of CBT. In the first, two external experts independently rated, on a 5-point scale (1 = no CBT at all, 5 = a lot of CBT), that the FESA treatment manual contained “some” CBT content (M = 3.5) and procedures (M = 3.0). These raters further indicated that 65% of the FESA program included CBT content and procedures.

In the second check, three experienced CBT therapists viewed one of three randomly selected videotaped sessions for each 16-session FESA case and rated how much CBT seen in the FESA session but not in the FESA therapist manual and (b) CBT bleeding across the 16 sessions. However, an ANOVA indicated a significant difference in CBT total by FESA session, F(15, 106) = 3.96, p < .000, η² = .30; Tukey’s HSD tests indicated that Session 7 was rated significantly higher in CBT total than were Sessions 3 and 4.

To examine whether diagnostic outcomes differed as a function of CBT bleeding or CBT total, we dichotomized these variables into two groups: low (ratings of 0 or 1) and high (ratings of 3, 4, or 5) and conducted chi-square analyses. We found no significant differences between the groups on the number of pretreatment principal diagnoses that were either (a) no longer principal at posttreatment or (b) no longer present at posttreatment (i.e., CSR < 4). In separate univariate ANOVAs between groups on outcome measures, only one significant difference was found: Mothers in the high CBT total group rated their children as significantly less anxious at posttreatment than did mothers in the low CBT total group, F(1, 37) = 4.04, p < .05, η² = .10.

**Discussion**

Research reviews and practitioner discussions have considered the merits of including parents in treatment for anxiety disorders in youth. In general, ICBT and FCBT resulted in posttreatment outcomes that were superior to those for FESA, indicating that the

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**Table 6**

**Percentages of Participants Exceeding Normative Limits (T ≥ 65) at Pretreatment and Exceeding (T ≥ 65) or Returning to Within Normative Limits (T < 65) at Posttreatment With Chi-Square Value and N of Normative Comparison Analyses**

<table>
<thead>
<tr>
<th>Measure</th>
<th>ICBT</th>
<th>FCBT</th>
<th>FESA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Exceeds limit</td>
<td>Exceeds limit</td>
<td>Exceeds limit</td>
</tr>
<tr>
<td></td>
<td>at post</td>
<td>at post</td>
<td>at post</td>
</tr>
<tr>
<td></td>
<td>Within limit</td>
<td>Within limit</td>
<td>Within limit</td>
</tr>
<tr>
<td></td>
<td>at post</td>
<td>at post</td>
<td>at post</td>
</tr>
<tr>
<td><strong>Mother report</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CBCL-Int %</td>
<td>18.68</td>
<td>17.58</td>
<td>13.19</td>
</tr>
<tr>
<td>N</td>
<td>17</td>
<td>16</td>
<td>12</td>
</tr>
<tr>
<td><strong>Father report</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CBCL-Int %</td>
<td>12.77</td>
<td>10.64</td>
<td>19.15</td>
</tr>
<tr>
<td>N</td>
<td>6</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td><strong>Teacher report</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRF-Int %</td>
<td>22.20</td>
<td>20.00</td>
<td>15.56</td>
</tr>
<tr>
<td>N</td>
<td>10</td>
<td>9</td>
<td>7</td>
</tr>
</tbody>
</table>

Note. Total N refers to the number of participants greater than or equal to a standardized T score of 65 at pretreatment. ICBT = individual cognitive–behavioral therapy; FESA = family-based education/support/attention. CBCL-Int = Child Behavior Checklist–Internalizing; TRF-Int = Teacher Report Form–Internalizing.

* p < .05.
two versions of CBT were comparable. These findings suggest that FCBT is not superior to ICBT and that including parents in the child’s treatment sessions is not essential to positive gains. Note, however, that parents are involved, albeit to a lesser degree and in a different way, in ICBT (as collaborators, not as co-clients), so that it would be incorrect to conclude that parents need not be involved with their child’s treatment (see also Barmish & Kendall, 2005; Nauta et al., 2003).

We examined treatment gains using the diagnostic data in two ways: (1) the child’s principal anxiety disorder was no longer present after treatment and (2) the child’s principal anxiety disorder was no longer the principal diagnosis after treatment. Using both approaches to define responder status, we found that ICBT and FCBT outperformed FESA.

Children, as reporters of their own symptomatology, did not differentiate the treatment conditions. That is, although independent diagnostic evaluations evidenced differential improvements, child self-reports indicated that all participants improved. Perhaps the social desirability frequently observed in anxious youth prompted them to report fewer symptoms. It is also possible that all treatments were successful in reducing self-reported anxiety. Finally, it could be that all children improved in self-reported symptoms, but the magnitude of gains were not as great as those found based on diagnostics.

Regardless of treatment condition, separate mother and father CBCL reports evidenced general improvements, and the CQ-P evidenced gains in particular situations that are difficult for each child—but parents knew about the treatment conditions. Teachers knew little about the treatments and nothing about the condition to which the child was randomized. Thus, teacher reports provide valuable evaluative information that is less likely to be biased. On the basis of teacher reports, ICBT was associated with posttreatment improvements significantly greater than those for FCBT and FESA. This relative differential outcome may be a reflection of the nature of treatment-produced change. That is, ICBT-produced changes may be those visible in the school/peer environment.

Many dependent measures evidenced time effects but no significant interactions. Previous studies using wait-lists report remission rates of 6%–8% (e.g., Flannery-Schroeder & Kendall, 2000; Kendall et al., 1997). Diagnostic changes evident herein (i.e., FESA 37%) are of a magnitude suggesting that changes were not due to spontaneous remission. The limited differential effects of conditions merit consideration within the context of FESA integrity. Experts rated the FESA manual as having two thirds CBT content, and observations of FESA tapes identified CBT bleeding. Apparently, despite efforts to have distinct conditions, there was overlap. To control for therapist characteristics, each therapist treated cases in all conditions. Thus, the FESA condition was administered by therapists trained in CBT. Perhaps future studies should employ others (therapists not trained in CBT) to provide non-CBT treatment? The absence of differences across conditions may be linked to the bleeding of the CBT content into the FESA condition. However, it also remains a possibility that the FESA condition (and “common factors”), though less on some measures, produced desirable gains.

The present findings are not likely explained by preexisting client factors. No age or gender differences were found across conditions. Also, although not a moderator of treatment response, participants who were assigned more diagnoses at pretreatment were less likely to complete treatment (greater attrition; Kendall & Sugarman, 1997).

How did the treated youth fare in terms of returning to within the normal range (clinical significance via normative comparisons; Kendall et al., 1999)? Participants showed improvement, with many who were in the CBCL clinical range at pretreatment improving to within the normal range (no longer above the clinical cutoff) following treatment. Some differential treatment response was identified: For father-reported CBCL data, those children in the ICBT and FCBT conditions were more likely than those in FESA to return to within the normative range on the CBCL.

Not all the treated youth showed meaningful benefits, and having parents as co-clients did not account for differential outcomes. Investigations are needed to understand the limited gains seen in some participants and to better determine the optimal involvement for parents (e.g., consultants, collaborators, co-clients). Indeed, not all “family” CBT is alike (Barmish & Kendall, 2005; Wood et al., 2006). Future research would benefit from examination of variables associated with in-session processes related to parenting. For example, in one set of analyses (Khanna & Kendall, 2007), coded instances of transfer of control (Ginsburg, Silverman, & Kurtines, 1995) and contingency management were significantly linked to child improvement.

What role did parental anxiety play? We addressed two questions: (1) Did treatment for child anxiety impact parental anxiety (spillover)? and (2) Did parental anxiety moderate child outcomes (e.g., Cobham et al., 1998)? Although the present data suggest that some parental anxiety improved (e.g., 40% of mother diagnoses were not present at posttreatment), there were no significant differences across conditions. In the present study, mothers’ anxiety disorder moderated some child outcomes (cf. Cobham et al., 1998): Children with nonanxious mothers were significantly more likely to be free of their principal anxiety diagnosis at follow-up compared with children with anxious mothers. The presence or persistence of a parental anxiety disorder seems to detract from treatment of a youth anxiety disorder.

At 1-year follow-up, some gains showed further improvement from posttreatment (e.g., child self-reports; mother CQ-P; father CBCL). Some parent self-reports reflected improvement over the follow-up period. Indeed, the present results are consistent with other findings that anxiety disorders in youth can be treated successfully with maintenance into a follow-up period (e.g., Barrett et al., 2001; Kendall, Safford, Flannery-Schroeder, & Webb, 2004). However, not all participants showed the same degree of meaningful change, indicating that research now needs to evaluate interventions for those who are nonresponders. Similarly, research is needed to examine the relative merits of psychopharmacologic treatment and psychological treatment for anxiety disorders in youth. Because the present study (as with several before it) included real clinical cases, one can be relatively confident in the generalizability of the findings to other clinic settings. However, generalizability is limited due to the relatively homogenous sample that was studied. The present findings are based on complex and comorbid cases. Future research will need to examine the potential role of complexities of comorbidities in the treatment-produced gains.

Potential limitations merit consideration. For example, FCBT, as operationalized in this study, is but one format for additional parental involvement. Relatedly, the individual skills taught in
ICBT may not have received optimal focus for a child when presented in FCBT. Other evaluations of treatments with varying formats for parental inclusion are needed. Also, evaluations of outcomes need to expand beyond symptom reduction and include assessments of the quality of life that follows intervention (e.g., Does treatment result in gains in social activities or in school performance?). Therapists were not blind to the comparison treatments, and future work should evaluate outcomes when therapists are unaware of the alternate treatment conditions. Research needs to consider these issues as well as to address the optimal methods for dissemination.

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