CRITICALLY APPRAISED PAPER (CAP)


**CLINICAL BOTTOM LINE:**

Authors in this study evaluated the effectiveness of and differences between two types of cognitive–behavioral therapy (CBT) used to treat anxiety disorders among children aged 5 to 7 years. Literature has demonstrated that anxiety disorder presentations are similar among preschool and older school-age children and can affect all aspects of a child’s life. It is important for occupational therapists working with children to be aware of anxiety-based disorders and to be able to implement interventions with both the child and the family to enable optimal occupational performance for the child.

This study evaluates the role of the child in his or her own management of anxiety disorders through use of a repeated-measures longitudinal design. One group received CBT intervention with child and parent pairs. In the other, only the parents received the CBT training. The program included education on the child’s disorder and behavioral management techniques, such as relaxation and graded exposure. The parent–child pairs were actively engaged in the education together and completed homework. Children in the parent-only group engaged in non-CBT activities while their parents received education.

Results showed that although both the parent-only treatment group and the parent–child treatment group had a significant decrease in anxiety symptoms and improvement in global functioning, the parent–child group performed better on each of the assessments at postintervention and at the 12-month follow-up. These findings highlight that including the child in the intervention approach is actually a more effective delivery approach. These results have significant implications for occupational therapists as they continue to expand and broaden their scope of practice in pediatrics and school-based therapy.

**RESEARCH OBJECTIVE(S):**

List study objectives.
• Compare two CBT group programs: one group in which CBT was administered to 5- to 7-year-old children along with their parents, and another group in which CBT was administered to the parents of the 5- to 7-year-old children alone
• Explore factors associated with treatment efficacy, such as child age, sex, and parental anxiety

DESIGN TYPE AND LEVEL OF EVIDENCE:
Level II: Prospective, repeated-measures, longitudinal study design

SAMPLE SELECTION
How were subjects recruited and selected to participate? Please describe.
The majority of participants were recruited from a list of new referrals to an anxiety disorders clinic in a children’s hospital. A smaller group of participants were recruited from patient flow at a university-setting clinical psychology center.

Inclusion Criteria
Participants were 5 to 7 years old, “met DSM–IV criteria for at least one anxiety disorder, spoke English and had a parent proficient in English” (p. 139).

Exclusion Criteria
Exclusion criteria “included the presence of autism spectrum disorders or significant learning problems (based upon school information and clinician judgment)” (p. 139).

SAMPLE CHARACTERISTICS
N= (Number of participants taking part in the study): 77 children
#/(%) Male: 29/(38%)
#/(%) Female: 48/(62%)
Ethnicity: 69 White, 7 Asian background, 1 Hispanic
Disease/disability diagnosis: Two or more anxiety disorders (85.7%), oppositional–defiant disorder (11.7%), and attention-deficit/hyperactivity disorder (3.9%)

INTERVENTION(S) AND CONTROL GROUPS
Add groups if necessary

Group 1: Parent-only CBT group

Brief description of the intervention
The parent-only CBT group used the Taming Sneaky Fears CBT Group Program to teach parents how to use CBT with their children. Parents were taught relaxation and desensitization strategies, given workbooks and weekly homework, and encouraged to practice all learned strategies with their children. The program was taught to parents only while children attended neutral
group sessions that included listening to neutral stories, playing games, completing crafts, and socializing with other children. None of the activities included teaching of cognitive–behavioral strategies or discussion or acknowledgement of any anxiety.

| **How many participants in the group?** | 32 parents in program  
Children were split into groups of 5–8, with at least two therapists. |
| **Where did the intervention take place?** | Two large urban–suburban sites |
| **Who Delivered?** | Therapists (child psychiatrists, clinical psychologists, and social workers with at least 5 years’ experience) |
| **How often?** | 1-hr session per week |
| **For how long?** | 11 weeks |

**Group 2: Parent–child CBT group**

| **Brief description of the intervention** | Parent–child CBT treatment used the Taming Sneaky Fears CBT Group Program.  
Parents were taught relaxation and desensitization strategies, given workbooks and weekly homework, and encouraged to practice all learned strategies with their children.  
Children were taught CBT strategies using stories, games, and activities that were based on recognizing feelings, learning relaxation strategies, externalizing fears through a puppet named Sneaky Fears, and thinking “brave thoughts.” |
| **How many participants in the group?** | 45 |
| **Where did the intervention take place?** | Two large urban–suburban sites |
| **Who delivered?** | Therapists (child psychiatrists, clinical psychologists, and social workers with at least 5 years’ experience) |
| **How often?** | 1-hr session per week |
| **For how long?** | 11 weeks |

**Intervention Biases:** Check yes, no, or NR and explain, if needed.
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*Comment:* Both groups received intervention.

### Co-intervention:

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*Comment:* There is no mention of whether the children were receiving other intervention, although it is noted that the children were not taking psychotropic medications on initiation of the study.

### Timing:

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*Comment:* This study took place over a 2-year period (3-month wait time, 12-week treatment phase, 6- and 12-month follow-up), and thus some improvements in anxiety levels could have been due to natural maturation of the children.

### Site:

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*Comment:* Site-specific information is not mentioned beyond the fact that the locations were large and urban–suburban.

### Use of different therapists to provide intervention:

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*Comment:* Although an integrity protocol was instituted, the personality and likability of the therapists cannot be accounted for in this study.

### MEASURES AND OUTCOMES

**Complete for each measure relevant to occupational therapy:**

#### Measure 1:

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<th>Name/type of measure used</th>
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<tr>
<td>The Anxiety Disorders Interview Schedule for DSM–IV: Parent Version (ADIS–P)</td>
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<th>What outcome was measured</th>
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<td>Semistructured interview that identifies symptoms and diagnoses of the <em>DSM–IV</em> anxiety disorder and other diagnoses. A clinical severity rating (CSR) of 4 or greater out of 8 indicates the presence of a diagnosis.</td>
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<th>Is the measure reliable?</th>
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| **Name/type of measure used:** | Children’s Global Assessment Scale (CGAS)  
| **What outcome was measured?** | Rating of adaptive functioning during the prior month for children ages 4 to 16 years old  
| **Is the measure reliable?** | YES X, NO ☐, NR ☐ (interrater and test–retest)  
| **Is the measure valid?** | YES ☐, NO ☐, NR X  
| **When is the measure used?** | During initial assessment, at pretreatment, immediately posttreatment, at 6 months posttreatment, and at 12 months posttreatment  

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<th>Measure 3:</th>
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| **Name/type of measure used:** | Screen for Child Anxiety Related Emotional Disorders (SCARED)  
| **What outcome was measured?** | The SCARED has a child and parent version that assess child anxiety symptoms by parent and child self-report. In this study, only the parent version was reported. Yields a total score and five factor scores that screen for panic disorder, generalized anxiety disorder, separation anxiety disorder, social anxiety disorder, and school refusal.  
| **Is the measure reliable?** | YES X, NO ☐, NR ☐ (internal consistency and test–retest)  
| **Is the measure valid?** | YES X, NO ☐, NR ☐ (discriminant validity)  
| **When is the measure used?** | During initial assessment, at pretreatment, immediately posttreatment, at 6 months posttreatment, and at 12 months posttreatment  

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<th>Measure 4:</th>
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| **Name/type of measure used:** | Revised Conners’ Parent Rating Scale: Long Version (CPRS-R:L)  
<p>| <strong>What outcome</strong> | Study used Subscales A (Oppositional–Defiant), D (Anxious/Shy), and G |</p>
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<th>Measure</th>
<th>Name/type of measure used</th>
<th>What outcome was measured</th>
<th>Is the measure reliable?</th>
<th>Is the measure valid?</th>
<th>When is the measure used?</th>
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<td>Behavioral Style Questionnaire</td>
<td>Assesses temperament of 3- to 8-year-old children</td>
<td>YES X</td>
<td>NO ☐</td>
<td>NR ☐ (internal consistency and test–retest reliability)</td>
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<td>Beck Anxiety Inventory</td>
<td>A self-report that assessed parental anxiety during the previous week</td>
<td>YES X</td>
<td>NO ☐</td>
<td>NR ☐ (internal consistency and 1-week test–retest reliability)</td>
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<td>Completed by parents during initial assessment, at pretreatment, immediately posttreatment, at 6 months posttreatment, and at 12 months posttreatment</td>
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Name/type of measure used: Hollingshead Four Factor Index of Social Status

What outcome was measured? Determines socioeconomic status on the basis of parents’ past education, current occupation, and average income

Is the measure reliable? YES ☐ NO ☐ NR X

Is the measure valid? YES ☐ NO ☐ NR X

When is the measure used? NR

Measurement Biases
Were the evaluators blind to treatment status? Check yes, no, or NR and if no, explain.

YES X
NO ☐
NR ☐

Comment: The ADIS-P information and the CGAS checklist information were presented to a group of child psychiatrists and clinical psychologists who were blinded to treatment type and time point of assessment to generate a consensus ADIS-P CSR and CGAS score for each participant.

Recall or memory bias. Check yes, no, or NR, and if yes, explain.

YES X
NO ☐
NR ☐

Comment: Some measures were self-report and interview-based assessments.

Others (list and explain):

N/A

RESULTS
List key findings based on study objectives
Include statistical significance where appropriate (p<0.05)
Include effect size if reported

Immediately posttreatment, 22 of 45 children (48.9%) in the child–parent treatment group no longer met criteria for their primary anxiety diagnoses, compared with 4 of 32 children (12.5%) in the parent-only treatment group. The difference between treatments was significant, with the child–parent treatment group losing significantly more primary anxiety diagnoses (Fisher’s exact test, p = .001).

ADIS-P CSR:
- Significant reduction in anxiety severity posttreatment in the child–parent (p < .0001) and parent-only (p = .001) treatment groups
- Large effect size (d = −1.54) in the child–parent treatment group and
medium effect size ($d = -0.74$) for the parent-only treatment group.

- There was a significant difference between the two treatments, with the child–parent treatment group demonstrating significantly lower anxiety severity at posttreatment than the parent-only treatment group ($p < .0001$), with a large effect size ($d = -0.80$).

- **Global Functioning measured by mean change in CGAS:**
  - Significant improvement posttreatment for child–parent treatment group ($p < .0001$), with a large effect size ($d = 1.63$)
  - No significant changes in the parent-only treatment group ($p = .01$)
  - The difference between the two treatment groups was significant ($p < .0001$), which demonstrates that children in the child–parent treatment group improved significantly more than children in the parent-only treatment group, with a large effect size ($d = 0.98$).

- **SCARED total score**
  - Significant change in the parent-report SCARED total score for the child–parent treatment group ($p < .002$)
  - In the parent-only treatment group, only the parent-report SCARED separation anxiety factor demonstrated significant change ($p = .002$).

- **CPRS-R:L Anxious/Shy subscale:**
  - Significant change in child–parent treatment group ($p < .0004$)

**Six months posttreatment:**
- **ADIS-P CSR:**
  - Further improvements in the mean change in child–parent ($p < .0001$) and parent-only ($p < .0001$) treatment groups
  - Difference in improvement between treatment groups was not significant ($p = .02$).

- **Global functioning measured by mean change in CGAS:**
  - Significant improvement within child–parent ($p < .0001$) and parent-only ($p < .0001$) treatment groups
  - Difference between treatment groups was significant ($p < .0001$).
  - Both treatment groups showed significant improvements in global functioning.
  - Significantly more improvement was seen in the child–parent treatment group compared with the parent-only treatment group.

- **SCARED total score:**
  - Significant improvements in the parent-report SCARED total score and social phobia ($p < .0001$) in the child–parent treatment group ($p < .002$)
  - No significant changes in the parent-only treatment group were noted.
  - No significant differences between treatment groups were noted.

- **CPRS-R:L Anxious/Shy Subscale:**
  - No significant changes in either treatment group

**12 months posttreatment:**
- **ADIS-P CSR:**
  - Significant reduction in child–parent ($p < .0001$) and parent-only ($p < .0001$) treatment groups
  - Difference between the two treatment groups was significant ($p = .001$),
which indicates significantly greater reduction in anxiety disorder severity in the child–parent treatment group, as compared with the parent-only treatment group.

- Global functioning measured by mean change in CGAS:
  - Significant improvements in child–parent ($p < .0001$) and parent-only ($p < .0001$) treatment groups
  - Children in the child–parent treatment were significantly better ($p < .0001$), with a large effect size ($d = 1.57$).

- SCARED total score:
  - Significant improvements in child–parent treatment group in parent-report SCARED total score ($p < .0001$) and separation anxiety ($p = .001$), social anxiety ($p = .0002$), and school refusal factors.
  - Significant improvements in parent-only treatment SCARED total score ($p = .0004$) and separation anxiety ($p < .0001$)
  - No significant differences between treatment groups on any parent measures

- CPRS-R: L Anxious/Shy subscale:
  - Significant improvements in child–parent treatment group ($p < .0001$)

- Relapses:
  - Child–parent treatment group: 1 child (2.2%)
  - Parent-only treatment group: 4 children (12.5%)

Was this study adequately powered (large enough to show a measured difference)? Check yes, no or NR, and if no, explain.

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Comment: The majority of listed significance values were less than .05.

Were appropriate analytic methods used? Check yes, no, or NR, and if no, explain.

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Comment: Twenty percent of sessions were randomly selected, videotaped, and reviewed by the team to ensure adherence to intervention, measurement, and assessment. Two CBT interventions were being compared in this study. Outcomes from both interventions and all assessments were recorded and statistically analyzed. The authors explained and justified their methods of analyses, which seem to be appropriate.

Were statistics appropriately reported (in written or table format)? Check yes or no, and if no, explain.

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Comment: The authors created a flow chart to show number of participants, dropout rate, missing data, and lost data. Graphs and charts with data representations of assessments are also provided. Additionally, all statistical analyses are explained and detailed in the Results section.
Was the percent/number of subjects/participants who dropped out of the study reported?

YES  X

NO   □

Limitations:
What are the overall study limitations?

- The sample was relatively homogenous (White, higher socioeconomic status).
- The comorbidities of oppositional–defiant disorder and attention-deficit/hyperactivity disorder were not excluded, yet few children had these comorbidities.
- The whole sample was not tested because families were missing follow-up assessments or were lost to follow-up.
- Parental bias is possible, given that parents were aware of what treatment group they had been assigned to. This knowledge might have biased the parents’ expectations and report of their child’s symptoms in regard to the effectiveness of treatment.
- Researchers were unable to evaluate child-rated change in symptoms despite reading the child SCARED items to the children.

CONCLUSIONS
State the authors’ conclusions related to the research objectives.

This study suggests that both parent-only and child–parent group CBT improve severity of anxiety disorders in children ages 5 to 7 years old. This study also suggests that the involvement of both children and parents in treatment is more effective than the involvement of parents alone.

This work is based on the evidence-based literature review completed by Laura Leibert, OTS, Nicole Venditti, OTS, Emma Fisher, OTS, and Rochelle Mendonca, PhD, faculty advisor, Temple University.