FOCUSED QUESTION
Is mindfulness-based cognitive therapy for children (MBCT-C) an effective treatment in decreasing attention problems, anxiety symptoms and behavior problems for children?


CLINICAL BOTTOM LINE:
Mindfulness-based therapies target the development of mindful attention by assisting individuals in applying incorporating techniques into their daily lives. This type of therapy is growing in popularity and is generally effective in reducing stress, anxiety, and symptoms of depression in adults, but only a limited number of studies have examined this approach. This randomized cross-lagged trial consisted of a 12-week program that used mindfulness-based cognitive therapy for children (MBCT-C) to assess its benefits for reducing anxiety, attention difficulties, and behavior problems in students between the ages of 9 and 13. Clinical psychologists implemented this study within a tutoring school program and the students had brief daily home practice exercises. Results showed preliminary support that MBCT-C was effective in treating anxiety symptoms, attention difficulties, and behavior problems for children with clinically elevated levels of anxiety. Occupational therapy can play a valuable role in continuing to research and implement this approach in therapy intervention. Occupational therapists can implement mindfulness techniques to minimize childhood anxiety, inattention, and behavioral problems.

RESEARCH OBJECTIVE(S)
List study objectives.

Determine whether MBCT-C program is effective in reducing attention problems, anxiety symptoms, and behavior problems, and determine whether changes in attention mediate behavioral changes.

DESIGN TYPE AND LEVEL OF EVIDENCE:
Level I: Randomized control trial, cross-lagged design
Limitations (appropriateness of study design):
Was the study design type appropriate for the knowledge level about this topic? *Circle yes or no, and if no, explain.*

YES/NO

SAMPLE SELECTION
How were subjects selected to participate? Please describe.

Subjects were referred from a remedial reading-tutoring program by a clinical educational psychologist. All of the subjects consisted of inner-city children struggling with academic problems.

Inclusion Criteria

English-speaking children age 9 to 13 years who were enrolled in a university clinic-based remedial reading tutoring program. Most of the children displayed some indication of associated stress or anxiety.

Exclusion Criteria

Not formally stated, but one child was reportedly excluded due to the age criterion.

SAMPLE CHARACTERISTICS

N=

% Dropouts 20%

#/(%) Male 10 (40%) #/(%) Female 15 (60%)

Ethnicity
- Latino (60%)
- African American (24%)
- Caucasian (16%)

Disease/disability diagnosis NR

Check appropriate group:

<20/study group | 20–50/study group ✓ | 51–100/study group | 101–149/study group | 150–200/study group

INTERVENTION(S) AND CONTROL GROUPS
Add groups if necessary

Group 1: Intervention group: Winter Group A

Brief Description Group of 6–7 9- and 10-year-old children participated in a 12-week MBCT-C program during the winter school semester. (Acted as control group in second phase.)
<table>
<thead>
<tr>
<th>Setting</th>
<th>School tutoring facility in a group setting and home setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Who Delivered?</td>
<td>1–2 therapists</td>
</tr>
<tr>
<td>Frequency?</td>
<td>One 90-minute session per week and brief daily home practice exercises</td>
</tr>
<tr>
<td>Duration?</td>
<td>12 weeks</td>
</tr>
</tbody>
</table>

**Group 2: Intervention group: Winter Group B**

<table>
<thead>
<tr>
<th>Brief Description</th>
<th>Group of 6–7 11- to 13-year-old children participated in a 12-week MBCT-C program during the winter school semester. (Acted as control group second phase.)</th>
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**Group 3: Wait-list control group: Group C**

<table>
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<tr>
<th>Brief Description</th>
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**Group 4: Wait-list control group: Group D**

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</tr>
</tbody>
</table>

**Intervention Biases:** *Circle yes or no and explain, if needed.*

**Contamination**

YES/NO Trained graduate research assistants administered and scored the assessments. Assistants were blind to the group assignments of participants.
Co-intervention
YES/NO

Timing
YES/NO

Site
YES/NO

Use of different therapists to provide intervention
YES/NO

MEASURES AND OUTCOMES
Complete for each relevant measure when answering the evidence-based question:
Name of measure, what outcome was measured, whether the measure is reliable and valid (as reported in article – yes/no/NR [not reported]), and how frequently the measure was used.

Child Behavioral Checklist (CBCL): Parents Report Form
Obtains multi-axial data on emotional and behavioral problems, social and academic competencies, and emotional and behavioral problems in children ages 4–18. Consists of 113 problem-behavioral items, completed by parents. In this study, the Attention Problem Scale, Internalizing Problem Scale, and Total Problems Scale were outcomes variables of interest. Researchers describe the CBCL as, “a well-standardized behavioral inventory with good reliability and validity” (p. 221).

Multidimensional Anxiety Scale for Children (MASC)
Helpful in differentiating children with anxiety disorders from those without anxiety disorders. A 39-item self-report that asks about anxiety-related thoughts, feelings, and actions in children ages 8–19. Researchers report that the MASC “contains an inconsistency index, which provides a measure of score validity” as well as good internal consistency (p. 222).

State-Trait Anxiety Inventory for Children (STAIC)
Assesses state and trait anxiety in children in grades 4–6. Uses a 40-item self-report questionnaire. Researchers report that the STAIC “has established reliability and validity for elementary-school aged children” (p. 222).
Measurement Biases
Were the evaluators blind to treatment status? *Circle yes or no, and if no, explain.*

**YES/NO**

Recall or memory bias. *Circle yes or no, and if yes, explain.*

**YES/NO**

Others (list and explain):

RESULTS
List results of outcomes relevant to answering the focused question
Include statistical significance where appropriate (*p* < 0.05)
Include effect size if reported

| Significant reductions were found in attention problems (*p* = .018) and CBCL total behavior problem scores (*p* = .019). |
| Some reductions in anxiety symptoms were shown, but no significant group differences were found via self-report from STAIC or MASC. Clinically relevant reductions in anxiety were found in a subgroup of children who initially reported higher levels of anxiety (*p* = .02). Improvement also was shown in CBCL total behavior problems scores for the subgroup of anxious children (*p* = .045) |
| There was a decline in problem behaviors, although no significant group difference was found at posttest or follow-up (*p* = .014). |
| Reductions in attention problems accounted for 46% of the variance in the reduction of behavior problems. However, further examination showed that attention changes did not mediate changes in behavior problems in this study. The pretest behavior problems were predictive of posttest behavior problems (*p* < .001) and pretest behavior problems were predictive of attention change (*p* < .001). |

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

**YES/NO**

Were appropriate analytic methods used? *Circle yes or no, and if no, explain.*

**YES/NO**

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

**YES/NO**
CONCLUSIONS
State the authors’ conclusions that are applicable to answering the evidence-based question.

This study shows preliminary support for the effectiveness of MBCT-C in treating attention problems, anxiety symptoms, and behavioral problems for children with clinically elevated levels of anxiety. Fewer attention problems were found to be maintained in children at the 3-month follow-up after the trial. In addition, results showed that MBCT-C might have some benefit for children with ADHD. The findings of this study promise effectiveness for this approach and support the authors’ call for additional research into mindfulness-based interventions for children.