

Cognitive Behavioral Intervention for Trauma in Schools (CBITS)

The Cognitive Behavioral Intervention for Trauma in Schools (CBITS) program is a school-based group and individual intervention designed to reduce symptoms of posttraumatic stress disorder (PTSD), depression, and behavioral problems; improve peer and parent support; and enhance coping skills among students exposed to traumatic life events, such as community and school violence, physical abuse, domestic violence, accidents, and natural disasters. CBITS has been tested primarily with children in grades 3 through 8, as in the three studies reviewed in this summary. It also has been implemented with high school students. Students who have participated in CBITS evaluations have been individually screened for trauma and/or were exposed to a catastrophic weather event such as Hurricane Katrina.

CBITS relies on cognitive and behavioral theories of adjustment to traumatic events and uses cognitive-behavioral techniques such as psychoeducation, relaxation, social problem solving, cognitive restructuring, imaginal exposure, exposure to trauma reminders, and development of a trauma narrative. The program includes 10 group sessions and 1-3 individual sessions for students, 2 parent psychoeducational sessions, and a teacher educational session. It is designed for delivery in the school setting by mental health professionals working in close collaboration with school personnel.

Descriptive Information

Areas of Interest	Mental health promotion
Outcomes	Review Date: March 2010 1: PTSD symptoms 2: Depression symptoms 3: Psychosocial dysfunction
Outcome Categories	Mental health Social functioning
Ages	6-12 (Childhood)
Genders	Male Female
Races/Ethnicities	Black or African American Hispanic or Latino White Race/ethnicity unspecified
Settings	School
Geographic Locations	Urban
Implementation History	Since it was first used in the 2000-2001 school year, CBITS has been implemented widely across the United States and is being actively disseminated through the National Child Traumatic Stress Network. Implementation sites have been located in California, the District of Columbia, Illinois, Louisiana, Maryland, Mississippi, Montana, Tennessee, and Wisconsin, among other States. Internationally, CBITS is being implemented in Australia, China, Guyana, and Japan.
NIH Funding/CER Studies	Partially/fully funded by National Institutes of Health: Yes Evaluated in comparative effectiveness research studies: Yes
Adaptations	CBITS has been adapted for use with traumatized Latino immigrant children, and worksheets and parent handouts have been translated into Spanish. The program also has been adapted for use in American Indian reservation schools to reflect the traditional culture and wellness practices of the participating tribes. In

	addition, program worksheets have been adapted for use among low-literacy populations and youth in foster care.
Adverse Effects	No adverse effects, concerns, or unintended consequences were identified by the developer.
IOM Prevention Categories	Selective Indicated

Quality of Research

Review Date: March 2010

Documents Reviewed

The documents below were reviewed for Quality of Research. The research point of contact can provide information regarding the studies reviewed and the availability of additional materials, including those from more recent studies that may have been conducted.

Study 1

Stein, B. D., Elliott, M. N., Tu, W., Jaycox, L. H., Kataoka, S. H., Fink, A., et al. (2003). School-based intervention for children exposed to violence [Reply]. *Journal of the American Medical Association*, 290(19), 2542.

[Stein, B. D., Jaycox, L. H., Kataoka, S. H., Wong, M., Tu, W., Elliott, M. N., et al. \(2003\). A mental health intervention for schoolchildren exposed to violence: A randomized controlled trial. *Journal of the American Medical Association*, 290\(5\), 603-611. !\[\]\(de95854c7ee024cfadc48187bbb781b2_img.jpg\)](#)

Study 2

[Kataoka, S. H., Stein, B. D., Jaycox, L. H., Wong, M., Escudero, P., Tu, W., et al. \(2003\). A school-based mental health program for traumatized Latino immigrant children. *Journal of the American Academy of Child and Adolescent Psychiatry*, 42\(3\), 311-318. !\[\]\(6059a5aa8b4ca7bb793408023d6c6e42_img.jpg\)](#)

Study 3

[Jaycox, L. H., Cohen, J. A., Mannarino, A. P., Walker, D. W., Langley, A. K., Gegenheimer, K. L., et al. \(2010\). Children's mental health care following Hurricane Katrina: A field trial of trauma-focused psychotherapies. *Journal of Traumatic Stress*, 23\(2\), 223-231. !\[\]\(6a9b39b98eb945faa14c645ec99e4eaa_img.jpg\)](#)

Supplementary Materials

[Foa, E., Johnson, K. M., Feeny, N. C., & Treadwell, K. R. \(2001\). The Child PTSD Symptom Scale: A preliminary examination of its psychometric properties. *Journal of Clinical Child Psychology*, 30\(3\), 376-384. !\[\]\(e3275251d0893157c3584e20c81dc3ba_img.jpg\)](#)

[Jaycox, L. H., Stein, B., Kataoka, S., Wong, M., Fink, A., Escudera, P., et al. \(2002\). Violence exposure, posttraumatic stress disorder, and depressive symptoms among recent immigrant schoolchildren. *Journal of the American Academy of Child and Adolescent Psychiatry*, 41\(9\), 1104-1110. !\[\]\(f60b7a900783ac3fd531bfd9c111be6d_img.jpg\)](#)

Morsette, A., Schulberg, D., van den Pol, R., Swaney, G., & Stolle, D. (2009). Culturally informed cognitive behavioral interventions for trauma symptoms: Group therapy in rural American Indian reservation schools. Manuscript submitted for publication.

Outcomes

Outcome 1: PTSD symptoms	
Description of Measures	The Child PTSD Symptom Scale (CPSS), the children's version of the Posttraumatic Diagnostic Scale for Adults, was used to assess PTSD symptoms. The CPSS is a 17-item self-report measure that asks children to rate how often in the past month they were bothered by symptoms on a scale from 0 (not at all) to 3 (almost always), yielding a total score ranging from 0 to 51, with higher scores indicating more PTSD symptoms.
Key Findings	<p>In one study, 6th-grade students who reported exposure to violence and had clinically significant PTSD symptoms (CPSS score > 14) were randomly assigned to a group receiving CBITS or to a wait-list control group. After adjustment for baseline scores, the intervention group had a significantly lower mean CPSS score at 3-month follow-up than the wait-list group (8.9 vs. 15.5; $p < .001$). The effect size for this finding was large (Cohen's $d = 1.08$). At 6-month follow-up, after the wait-list group completed the CBITS intervention, the difference between the intervention and wait-list groups' mean CPSS scores was no longer significant (8.2 vs. 7.2).</p> <p>In another study, students in grades 3-8 with trauma-related depression and/or PTSD symptoms were compared after receiving CBITS or being placed in a wait-list control group. From baseline to 3-month follow-up, the intervention group's mean CPSS score decreased significantly from 19 to 13</p>

($p < .001$), while the wait-list group had a nonsignificant decrease from 18 to 16. In addition, in a subsample analysis of students with clinically significant PTSD symptoms at baseline (CPSS score > 11), the improvement in mean CPSS score was significantly greater for the intervention group (from 20 to 13) than for the wait-list group (from 19 to 16; $p < .05$).

In a third study, students in grades 4-8 who reported significant levels of mental health symptoms including PTSD were randomly assigned to receive CBITS or Trauma-Focused Cognitive Behavioral Therapy (TF-CBT). Mean CPSS scores improved significantly from baseline to 10-month follow-up in both groups, decreasing from 22.82 to 12.00 for the TF-CBT group ($p < .01$) and from 21.98 to 15.81 for the CBITS group ($p < .001$). While both treatments led to a significant reduction of PTSD symptoms, the difference between groups was not statistically significant.

Studies Measuring Outcome Study 1, Study 2, Study 3

Study Designs Experimental, Quasi-experimental

Quality of Research Rating 3.1 (0.0-4.0 scale)

Outcome 2: Depression symptoms

Description of Measures Symptoms of depression were assessed using the Children's Depression Inventory (CDI). The CDI is a 27-item self-report instrument that assesses cognitive, affective, and behavioral symptoms of depression in children. Twenty-six of the 27 items were used; 1 item assessing suicidality was removed at the request of school personnel. For each item, the child was asked to describe his or her feelings during the past 2 weeks, with three possible response options associated with scores of 0 (an absence of symptoms), 1 (mild symptoms), and 2 (definite symptoms). Scores range from 0 to 52 points, with higher scores indicating more depressive symptoms.

Key Findings In one study, 6th-grade students who reported exposure to violence and had clinically significant PTSD symptoms (CPSS score > 14) were randomly assigned to a group receiving CBITS or to a wait-list control group. After adjustment for baseline scores, the intervention group had a lower mean CDI score at 3-month follow-up than the wait-list group (9.4 vs. 12.7; $p = .014$). The effect size for this finding was small (Cohen's $d = 0.45$). At 6-month follow-up, after the wait-list group completed the CBITS intervention, the difference between the intervention and wait-list groups' mean CDI scores was no longer significant (9.0 vs. 10.0).

In another study, students in grades 3-8 with trauma-related depression and/or PTSD symptoms were compared after receiving CBITS or being placed in a wait-list control group. From baseline to 3-month follow-up, the intervention group's mean CDI score decreased significantly from 16 to 14 ($p < .001$), while the wait list group's mean CDI score remained unchanged at 16. In addition, in a subsample analysis of students with clinically significant depression symptoms at baseline (CDI score = 18), the improvement in mean CDI score at 3-month follow-up was significantly greater for the intervention group (from 23 to 18) than for the wait-list group (from 24 to 23; $p < .05$).

In a third study, students in grades 4-8 who reported significant levels of mental health symptoms including PTSD were randomly assigned to receive CBITS or TF-CBT. Mean CDI scores improved significantly for both groups from baseline to 10-month follow-up, decreasing from 15.43 to 11.14 for the TF-CBT group ($p = 0.17$) and from 13.40 to 9.72 for the CBITS group ($p < .001$).

Studies Measuring Outcome Study 1, Study 2, Study 3

Study Designs Experimental, Quasi-experimental

Quality of Research Rating 3.0 (0.0-4.0 scale)

Outcome 3: Psychosocial dysfunction

Description of Measures Psychosocial dysfunction was assessed using the 35-item Pediatric Symptom Checklist (PSC). This instrument asks the child's parent to rate the frequency of the child's emotional and behavioral problems on a scale from 0 (never) to 2 (often), yielding a total score of 0 to 70 points, with higher scores indicating greater dysfunction.

Key Findings Sixth-grade students who reported exposure to violence and had clinically significant PTSD

symptoms (CPSS score > 14) were randomly assigned to a group receiving CBITS or to a wait-list control group. After adjustment for baseline scores, the intervention group had a significantly lower mean PSC score at 3-month follow-up compared with the wait-list group (12.5 vs. 16.5; $p = .007$). The effect size associated with this finding was medium (Cohen's $d = 0.77$). At 6-month follow-up, after the wait-list group completed the CBITS intervention, the difference between the intervention and wait-list groups' mean PSC scores was no longer significant (9.4 vs. 8.9).

Studies Measuring Outcome	Study 1
Study Designs	Experimental
Quality of Research Rating	3.4 (0.0-4.0 scale)

Study Populations

The following populations were identified in the studies reviewed for Quality of Research.

Study	Age	Gender	Race/Ethnicity
Study 1	6-12 (Childhood)	56% Female 44% Male	100% Race/ethnicity unspecified
Study 2	6-12 (Childhood)	50% Female 50% Male	100% Hispanic or Latino
Study 3	6-12 (Childhood)	56% Female 44% Male	48% White 46% Black or African American 5% Hispanic or Latino 1% Race/ethnicity unspecified

Quality of Research Ratings by Criteria (0.0-4.0 scale)

External reviewers independently evaluate the Quality of Research for an intervention's reported results using six criteria:

1. Reliability of measures
2. Validity of measures
3. Intervention fidelity
4. Missing data and attrition
5. Potential confounding variables
6. Appropriateness of analysis

For more information about these criteria and the meaning of the ratings, see [Quality of Research](#).

Outcome	Reliability of Measures	Validity of Measures	Fidelity	Missing Data/Attrition	Confounding Variables	Data Analysis	Overall Rating
1: PTSD symptoms	4.0	4.0	2.0	3.0	2.0	3.5	3.1
2: Depression symptoms	4.0	3.5	2.0	3.0	2.0	3.5	3.0
3: Psychosocial dysfunction	3.5	4.0	3.0	3.5	2.5	4.0	3.4

Study Strengths

Relevant and psychometrically sound measurement instruments were used in the studies. The measures have high levels of reliability and validity and have been widely used in other studies. Missing data were handled well and were factored into analyses (e.g., analyses used multiple imputation; intent-to-treat was used in two of the studies). A variety of analyses were used across the three studies, and the analyses generally were appropriate for the type of data collected.

Study Weaknesses

Despite the availability of a treatment manual and clinician training, the methods used to assess intervention fidelity varied across the three studies and overall were not systematically strong. Several important confounding variables were not resolved in the studies, including baseline differences between completers and noncompleters, lack of blinding to treatment condition, a mixed approach to

Readiness for Dissemination

Review Date: March 2010

Materials Reviewed

The materials below were reviewed for Readiness for Dissemination. The implementation point of contact can provide information regarding implementation of the intervention and the availability of additional, updated, or new materials.

Cognitive Behavioral Intervention for Trauma in Schools Dissemination Toolkit

Jaycox, L. (2004). Cognitive Behavioral Intervention for Trauma in Schools. Longmont, CO: Sopris West Educational Services.

Program Web site, http://www.tsaforschools.org/index.php?option=com_content&task=view&id=81&Itemid=69

Readiness for Dissemination Ratings by Criteria (0.0-4.0 scale)

External reviewers independently evaluate the intervention's Readiness for Dissemination using three criteria:

1. Availability of implementation materials
2. Availability of training and support resources
3. Availability of quality assurance procedures

For more information about these criteria and the meaning of the ratings, see [Readiness for Dissemination](#).

Implementation Materials	Training and Support Resources	Quality Assurance Procedures	Overall Rating
4.0	4.0	3.5	3.8

Dissemination Strengths

Implementation materials are thorough and well developed. The manual and toolkit are easy to read, well organized, and clearly formatted. Detail is provided on screening students for appropriateness for inclusion in the program. Training packages are comprehensive and varied. The developers are clear about the skills and competences required by clinicians and supervisors who implement the program. Ongoing support is provided via remote telephone consultation and an online peer support network and resource library. Several options for fidelity monitoring are described, including the scoring of live or audiotaped sessions, therapist self-ratings, and supervision, and forms and rating instructions are included. Fidelity monitoring is stressed as an important component of the program.

Dissemination Weaknesses

The quality assurance materials contain no cultural competency measurement component despite an emphasis on cultural adaptations of the program. Further, there is minimal explanation as to how supervisors should interpret the changes in participants' scores from pre- to posttest and how they should analyze this information.

Costs

The cost information below was provided by the developer. Although this cost information may have been updated by the developer since the time of review, it may not reflect the current costs or availability of items (including newly developed or discontinued items). The implementation point of contact can provide current information and discuss implementation requirements.

Item Description	Cost	Required by Developer
Manual	\$40 each	Yes
Background reading information	Free	No
Adaptation materials	Free	No
Students and Trauma DVD	\$15 each	No
2-day, on- or off-site training (includes pretraining consultation)	\$4,000 for 12-15 participants, plus travel expenses	No

Clinical consultation	\$200 per hour	No
Fidelity checklists with instructions	Free	No
Review of tape recordings for fidelity monitoring	\$100 per hour	No

Additional Information

The cost of implementation can be calculated based on the salary of a full-time, school-based mental health professional who is devoted to delivering CBITS. One professional can screen students in the general school population and select students with elevated symptoms, delivering up to 30 CBITS groups per academic year (6-8 students per group), for a total of about 210 students. Assuming an approximate staffing cost of \$90,000 per year for a full-time social worker, the estimated cost per participant is \$430.

Replications

Selected citations are presented below. An asterisk indicates that the document was reviewed for Quality of Research.

[Cohen, J. A., Jaycox, L. H., Mannarino, A. P., Walker, D. W., Langley, A. K., & DuClos, J. L. \(2009\). Treating traumatized children after Hurricane Katrina: Project Fleur-de-Lis. *Clinical Child and Family Psychology Review*, 12\(1\), 55-64.](#) 

Dean, K., Langley, A., Kataoka, S., Jaycox, L. H., Wong, M., & Stein, B. D. (2008). School-based disaster mental health services: Clinical, policy, and community challenges. *Professional Psychology: Research and Practice*, 39(1), 51-57.

Feldman, E. (2007). Implementation of the Cognitive Behavioral Intervention for Trauma in Schools (CBITS) with Spanish-speaking, immigrant middle-school students: Is effective, culturally competent treatment possible within a public school setting? (Doctoral dissertation, University of Wisconsin-Madison, 2007). *Dissertation Abstracts International*, 68(A), 1325.

Jaycox, L. H., Langley, A. K., Stein, B. D., Wong, M., Sharma, P., Scott, M., et al. (2009). Support for students exposed to trauma: A pilot study. *School Mental Health*, 1(2), 49-60.

[Kataoka, S. H., Fuentes, S., O'Donoghue, V. P., Castillo-Campos, P., Bonilla, A., Halsey, K., et al. \(2006\). A community participatory research partnership: The development of a faith-based intervention for children exposed to violence. *Ethnicity & Disease*, 16\(1 Suppl. 1\), S89-S97.](#) 

Kataoka, S., Nadeem, E., Langley, A. K., Jaycox, L., Stein, B. D., & Wong, M. (in press). Implementing school mental health programs in post-Katrina Louisiana: A focus group study. *American Journal of Preventive Medicine*.

[Morsette, A., Swaney, G., Stolle, D., Schuldberg, D., van den Pol, R., & Young, M. \(2009\). Cognitive Behavioral Intervention for Trauma in Schools \(CBITS\): School-based treatment on a rural American Indian reservation. *Journal of Behavior Therapy and Experimental Psychiatry*, 40\(1\), 169-178.](#) 

Contact Information

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Consider these [Questions to Ask](#) (PDF, 54KB) as you explore the possible use of this intervention.

Web Site(s):

- <http://www.cbitsprogram.org>