Connecticut CBITS Evaluation Report

July 2015-June 2016

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Report Highlights

- 24 clinicians were trained to deliver CBITS
- 60 CBITS groups were held in four Connecticut communities (Bridgeport, New London, Stamford, and New Haven)
- 687 children were screened; 50% screened positive for likely PTSD
- 288 children received CBITS, with 92% completing the group
- Children reported exposure to an average of 7.8 different traumatic events
- Children reported significant improvements in PTSD symptoms (40% reduction), behavior problems (24% reduction), and functioning skills (5% increase)
- Children who were more impaired prior to CBITS showed the greatest improvements in symptoms
- 94% of caregivers were satisfied with their child's CBITS group
- White children showed less improvement on outcomes than Latino, Black, or children of other racial/ethnic groups
- Children who were between 7 and 12 years old showed slightly more improvement on the broad array of outcomes than older children
- Few other differences by racial/ethnic group, gender, or age were found
- Recommendations are made to expand access to CBITS and to support existing communities offering CBITS

Description of CBITS in Connecticut

The Cognitive Behavioral Intervention for Trauma in Schools (CBITS) initiative is funded by the Connecticut Department of Children and Families (DCF), in partnership with Sharon Stephan, Ph.D. (CBITS Trainer), additional CBITS trainers and staff, the Child Health and Development Institute (CHDI; data reporting), Wheeler Clinic (training support), and participating school-based health centers and schools. CBITS is a brief, evidence-based, group intervention for children suffering from exposure to violence, abuse, and other forms of trauma that has strong research support. The Connecticut CBITS dissemination began in Spring 2015 in Bridgeport, and expanded to include the New Haven, New London, and Stamford school districts from July 2015 to June 2016. Provider agencies (and thus the schools/communities they serve) were selected through a competitive state procurement process led by DCF, which provided a stipend to participating agencies as well as training, consultation, data collection/reporting, and other support. This report summarizes CBITS outcome data from CBITS groups that were held between July 2015 and June 2016 at eighteen different schools in the Bridgeport, New London, New Haven, and Stamford school districts.

Training Summary

There were two CBITS clinical trainings held in Bristol, CT between July 2015 and June 2016, which resulted in 24 clinicians being trained to deliver CBITS. The first training was held in September 2015. A total of three staff members from Optimus Health Care, one staff member from Southwest Community Health Center, and two staff members from the Connecticut Juvenile Training School attended the training. The second training was held in November 2015. A total of five staff members from Child and Family Agency of Southeastern CT, five staff members from Clifford Beers Clinic, five staff members from Stamford Public Schools, and three staff members from Optimus Health Care attended the training.

Learning Community

CBITS clinicians participated in a Learning Community consisting of three Learning Community sessions. The Learning Community sessions were held on December 18th, February 26th, and May 6th. During these sessions, clinicians from Bridgeport, New London, New Haven, and Stamford came together to review and practice clinical skills, to review use of clinical assessment measures and data reporting requirements using the Evidence Based Practice Tracker (EBP-T) system, and to learn about other concepts that relate to working with youth who have experienced trauma, such as self-care, traumatic grief, and immigrant and refugee trauma. As part of the Learning Community, clinicians also participated in bi-weekly clinical consultation calls with master CBITS trainers. The consultation calls gave the clinicians the opportunity to ask questions and learn from other clinicians as well as from the CBITS trainers, and to share successes and challenges of implementation.

Screening

Providers worked closely with school administrators to develop screening processes in each school to screen children for trauma exposure and PTSD symptoms. Some schools did grade-wide or classroom-wide screening, while others screened smaller groups of children. A total of 687 children were screened for CBITS across four school districts. Of these 687 children, 345 (50%) had elevated scores indicating trauma exposure and clinically significant PTSD symptoms, and were eligible for CBITS. Of 126 children who were eligible for CBITS based on elevated screeners but did not participate, 56 declined participation, 55 lacked parental consent, and 15 were referred to other clinical services.

Group Description and Completion

Group Description

A total of 60 CBITS groups were held between July 2015 and June 2016 in Bridgeport, New London, New Haven, and Stamford. Of these 60 groups, 59 completed all ten sessions, and one group was cancelled after the first two sessions due to unforeseen changes/repairs to the school facility resulting in the loss of a room to hold CBITS groups. Table 1 shows the total number of CBITS groups that were held at each school.

A total of 288 children were enrolled in CBITS groups and 263 (92%) completed a group. Tables 4 and 5 (see Appendix A) show CBITS implementation and child outcomes both statewide and by agency.

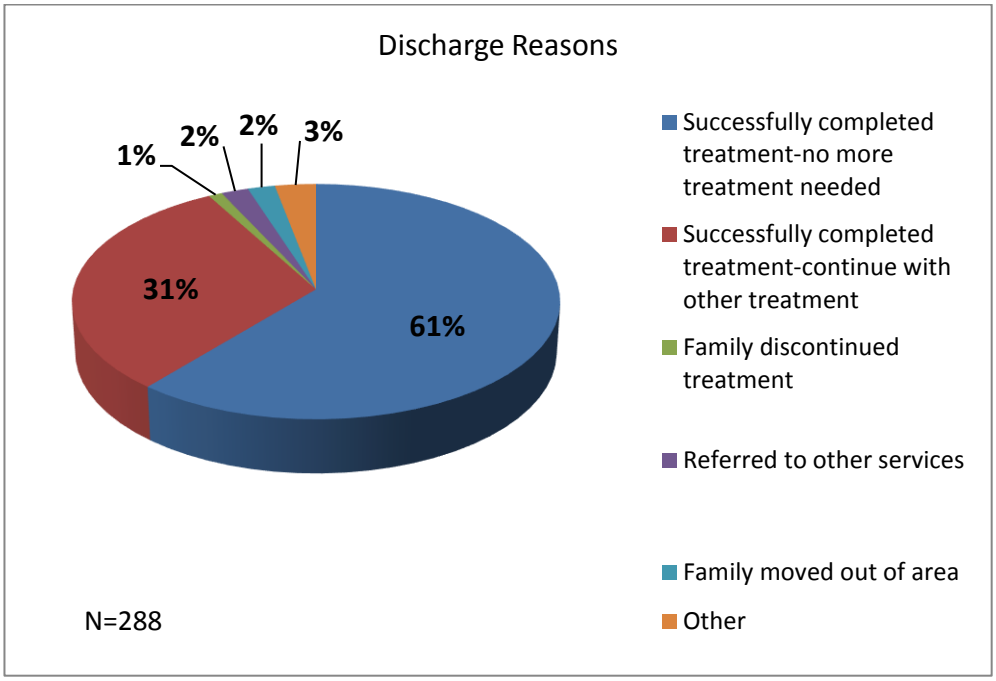
Table 1: Number of CBITS Groups Held by School/District

School Name	District	Total # of CBITS Groups
Barnum School	Bridgeport	9
Cesar A. Batalla School	Bridgeport	9
Luis Munoz Marin School	Bridgeport	10
Roosevelt School	Bridgeport	5
Bridgeport Total		**33**
Bishop Woods School	New Haven	2
Clinton Avenue School	New Haven	2
New Horizons School	New Haven	2
Truman School	New Haven	2
Wexler-Grant School	New Haven	2
New Haven Total		**10**
Catherine Kolnaski School	New London	2
Fitch High School	New London	3
Norwich Free Academy	New London	2
Regional Multicultural Magnet	New London	3
West Side Middle School	New London	2
New London Total		**12**
Newfield Elementary School	Stamford	1
Stillmeadow Elementary School	Stamford	1 (cancelled)
Turn of River Middle School	Stamford	1
Westhill High School	Stamford	2
Stamford Total		**5**

Group Completion

Of the 288 children who received CBITS, 92% successfully completed treatment, 2% of children were referred for another non-EBP treatment within the agency or to another outpatient agency, 2% were discharged because their family moved out of the area, 1% had their family discontinue treatment, and 3% were discharged for other reasons. Figure 1 shows the breakdown of discharge reasons for children who received CBITS.

Figure 1: Discharge Reasons for Children who Received CBITS



Group, Child, and Caregiver Sessions

Group Sessions

The group session form is completed once for each CBITS group, with session-by-session fidelity ratings of 1) whether required activities were completed, and 2) the extent to which CBITS objectives were met. Across groups, 98% of session activities were completed, indicating a high level of fidelity. The session form also asks clinicians to rate the extent to which objectives for delivering CBITS were met. The scale for this ranged from 1 to 4 (1 = Not Met/Not Attempted, 2 = Somewhat Met, 3 = Mostly Met, 4 = Completely Met). The average rating across all groups for the session objectives was 3.6, indicating that on average, the clinicians reported mostly/completely meeting the objectives for each session, which also indicates a high level of fidelity. Attendance at group sessions was very high; of the 263 children who successfully completed treatment, 9 sessions were attended on average (std dev = 1.16), and 81% were present at all 10 sessions.

Individual and Caregiver Sessions

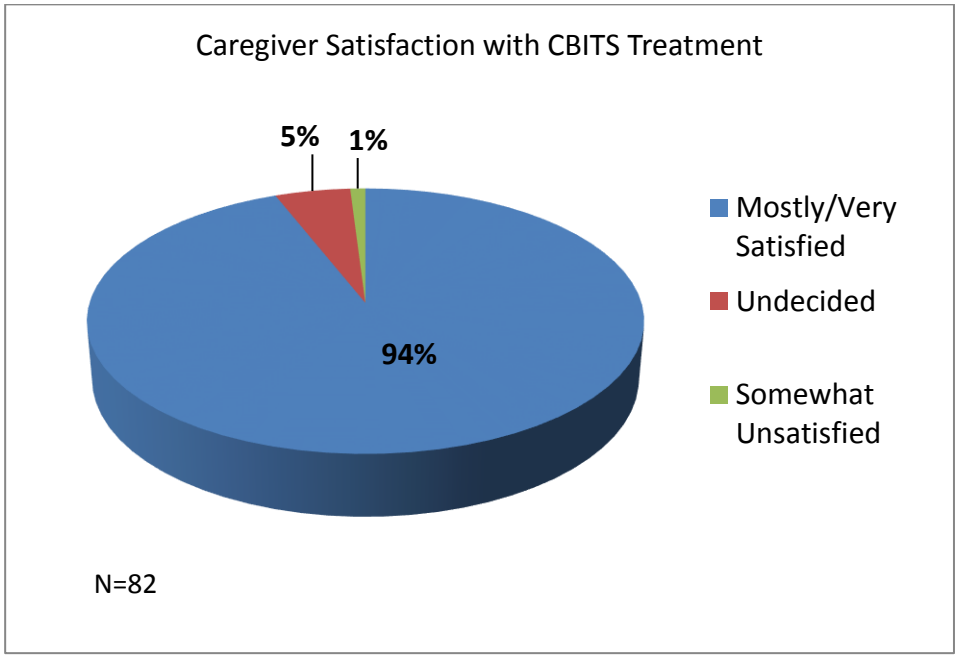
In addition to the 10 group sessions, the CBITS model includes at least one individual session with the child and with a caregiver when possible. Out of 288 children, 266 (92%) had at least one CBITS individual session (the other 22 dropped out of the group prematurely). In addition, 151 caregivers (52%) had at least one caregiver session, with 136 caregivers (47%) participating in two sessions each. The Child and Caregiver Individual Form asks the clinician to

provide a rating for how well they thought certain objectives were met during the individual session with both the child and the caregiver. The scale for this ranged from 1 to 4 (1 = Not Met/Not Attempted, 2 = Somewhat Met, 3 = Mostly Met, 4 = Completely Met). The average rating for the session objectives was 3.7 across the child sessions, and 94% of the child session activities were completed. The average rating for the session objectives across the caregiver sessions was also 3.7, and 87% of the caregiver session activities were completed.

Caregiver Satisfaction

The Youth Services Survey for Families (Y-SSF) was sent home to the caregivers of the 288 children who received CBITS, and 82 caregivers (28%) completed and returned the assessment. As shown in Figure 2, nearly all caregivers were "mostly" or "very" satisfied with their child's treatment (94%), while 5% were "undecided", and 1% were "somewhat unsatisfied".

Figure 2. Caregiver Satisfaction with CBITS Treatment



<u>Child Characteristics</u>

Demographic Information

Table 2 shows demographic information for children receiving CBITS. Of the 288 children who received CBITS, there were more females than males, and the majority of children were between 7-12 years old. The children were also ethnically and racially diverse. Over half of the children who received CBITS identified as Hispanic.

Table 2: Characteristics of Children Receiving CBITS (N=288)

Child Characteristic	Percentage
Sex	
Male	42%
Female	58%
Age	
7-12 years old	60%
13-15 years old	28%
16-19 years old	12%
Race	
White	8%
Black/African American	18%
Hispanic	56%
Other	4%
Not Specified	14%

Baseline Symptoms and Functioning

Trauma Exposure

The Trauma Exposure Checklist (TEC) was administered to 288 children prior to the groups beginning. These children reported exposure to an average of 7.8 different types of potentially traumatic events (SD = 3.46), indicating a high level of exposure to trauma. There was no significant difference in rates of trauma exposure across racial groups, F (3, 239) = 2.53, p = .06, or between males and females, F (1, 239) = .002, p = .96. There was also no interaction between race and sex on baseline trauma exposure, F (3, 239) = .95, p = .42.

Baseline PTSD Symptoms

The Child PTSD Symptom Scale (CPSS), a measure of posttraumatic stress disorder (PTSD) symptoms, was administered to all children prior to starting CBITS. The mean CPSS score was 24.8, indicating clinically elevated PTSD symptoms. Out of 288 children, 236 (82%) had CPSS scores of 16 or greater at baseline, the cutoff score indicating a likely diagnosis of PTSD.

Baseline PTSD Symptoms by Race and Sex

A two-way between-groups ANOVA was conducted to explore the impact of race and sex on baseline PTSD symptoms. The interaction effect between sex and race was not significant, F (3, 239) = 1.79, p = .15. The main effects for sex, F (1, 239) = 3.45, p = .06, and for race, F (3, 239) = .07, p = .97 were also not significant. Thus, there were no significant differences by race or sex on baseline PTSD symptom scores, although there was a trend

towards differences in gender where females reported higher PTSD symptoms than males prior to treatment.

Baseline PTSD Symptoms by Age

A one-way between-groups ANOVA was conducted to explore the impact of age on baseline PTSD symptoms. Children were divided into three groups according to their age (7-12 years old, 13-15 years old, and 16-19 years old). There was not a significant difference in baseline PTSD scores between the three age groups, F (2, 285) = .65, p = .52.

Baseline Problem Severity Symptoms & Functioning

The Ohio Youth Problem and Functioning Scales, a measure of overall problem behaviors and functioning, was administered to 270 children prior to the group. The mean Ohio Problem Severity Scale score was 23.9, indicating borderline impairment at baseline, and the mean Ohio Functioning Scale score was 57.3, indicating no impairment at baseline. There were 124 children (46%) who had an Ohio Problem Severity scale score of 25 or greater at baseline, indicating critical impairment. Only 39 children (14%) had an Ohio Functioning scale score of 44 or below, also indicating critical impairment.

Baseline Problem Severity Symptoms and Functioning by Race and Sex

A two-way between-groups analysis of variance was conducted to explore the impact of race and sex on baseline problem severity symptoms and functioning. For problem severity, the interaction effect between sex and race was not significant, F (3, 221) = 1.76, p = .15. The main effects for sex, F (1, 221) = 1.31, p = .25, and for race, F (3, 221) = .58, p = .63 were not significant. Thus, there were no differences in problem severity at baseline by sex or race.

For functioning, the interaction effect between sex and race was also not significant, F (3, 221) = 1.55, p = .20. There was a significant main effect for race, F (3, 221) = 2.64, p = .05, however the effect size was small (partial eta squared = .03). Post-hoc comparisons using the Tukey HSD test indicated that Black youth (M = 60.5, SD = 11.2) had significantly higher levels of functioning at baseline compared to Other youth (M = 45.8, SD = 19.4), (but not White or Hispanic youth). The main effect for sex, F (1, 221) = .22, p = .64, was not significant. Figure 11 (Appendix B) shows the average baseline functioning scores by race.

Baseline Problem Severity Symptoms and Functioning by Age

Children were divided into three groups according to their age (7-12 years old, 13-15 years old, and 16-19 years old). There were no significant differences by age in baseline problem severity scores, F (2, 267) = 1.22, p = .29, or functioning, F (2, 267) = 2.67, p = .07.

Child Outcomes

Pre- to Post-Group Changes in Symptoms & Functioning

The CPSS and Ohio Scales were administered post-group. There were 260 children who completed the CPSS, and 236 children who completed the Ohio Scales who had both pre-group and post-group scores to compare. A paired-samples t-test was conducted to measure the impact of CBITS on PTSD symptoms from pre to post group. There was a significant decrease in CPSS scores from pre-group (M = 24.7, SD = 9.39), to post-group (M = 14.9, SD = 9.95), t (259) = 13.1, p < .000 (see Figure 3). This change represented a 40% reduction in PTSD symptoms. Of 260 children, there were 212 children (82%) who scored a 16 or higher on the CPSS pre-group. Post-group, 115 of these children (54%) had a CPSS score of less than 16; **this suggests that 54% of children with a likely diagnosis of PTSD pre-group no longer had a diagnosis of PTSD after receiving CBITS.** These rates of PTSD reductions are significant, especially considering they were achieved through a brief, 10-session intervention.

Paired-samples t-tests were also conducted to measure the impact of CBITS on problem severity and functioning scores from pre to post group. There was a significant decrease in problem severity scores from pre-group (M = 23.8, SD = 15.0) to post-group (M = 18.3, SD = 14.9), t (235) = 5.28, p < .000 (see Figure 3), which was a 24% reduction in problem severity symptoms. There was a significant increase in functioning from pre-group (M = 57.6, SD = 12.7) to post-group (M = 60.7, SD = 14.6), t (234) = -3.4, p < .001 (see Figure 4), which was a 5% increase in functioning abilities. Of 236 children, there were 106 children (45%) who had an Ohio Problem Severity score of 25 or higher at baseline. Post-group, 69 of these children (65%) had a score of less than 25; **this is a 65% decrease of children with scores indicating a critical impairment for severity of general behavior problems.** In addition, there were 32 children (14%) who scored 44 or below at baseline on the Functioning scale, and 21 of these children (66%) had scores greater than 44 post-group; **this is a 66% decrease of children with scores indicating critical impairment.** The results from the Ohio scales suggest that the children experienced fewer problems and demonstrated better functioning after the completion of the CBITS group, compared to their scores before starting the CBITS group.

Figure 3. Mean PTSD and Problem Severity Scores Pre- and Post-Group

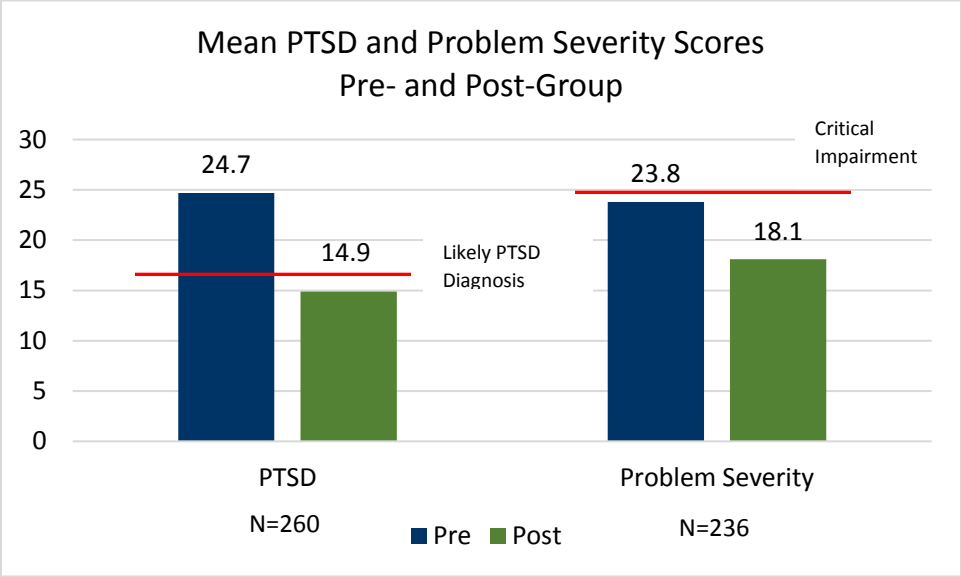
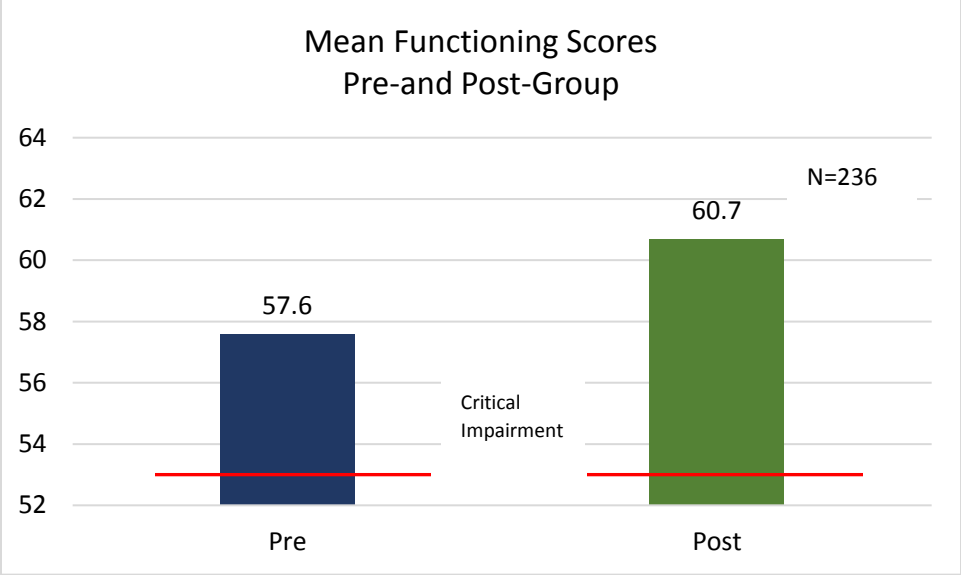


Figure 4. Mean Ohio Functioning Scores Pre-and Post-Group



Pre- to Post-Group Changes in Symptoms and Functioning by Race and Sex

A mixed between-within subjects ANOVA was conducted to explore the impact of race and sex on PTSD scores from pre- to post-group. There was a significant interaction between race and time, Wilks Lambda = .95, F (3, 220) = 3.76, $p < .05$, as well as a significant main effect of race on pre and post scores, F (3, 220) = 3.41, $p < .05$. Post-hoc comparisons using the Tukey HSD test indicated White youth showed less reduction in PTSD symptoms from pre-group to-post group (M = 25.1, SD = 10.9; M = 23.4, SD = 12.9) compared to Hispanic youth (M = 23.9, SD

= 9.1; *M* = 13.4, *SD* = 8.9). There were no differences in PTSD symptoms at pre and post by sex, *F* (1, 258) = 1.10, *p* = .29, and no interaction between sex and time on PTSD symptoms, Wilks Lambda = .99, *F* (1, 258) = 3.15, *p* = .08. Figure 12 (Appendix B) shows the average PTSD scores pre and post-group by race. Thus, both males and females had similar improvements in PTSD symptoms, and decreases in PTSD symptoms from pre- to post-group were influenced by race with White youth showing less improvement than Hispanic youth. There were no significant differences in PTSD symptoms from pre- to post-group between the other racial groups.

A mixed between-within subjects ANOVA was also conducted to explore the impact of race and sex on problem severity scores from pre- to post-group. There was no interaction between race and time on problem severity symptoms, Wilks Lambda = .97, *F* (3, 195) = 2.19, *p* = .09, however there was a significant main effect for race, *F* (3, 195) = 5.38, *p* < .01. Post-hoc comparisons using the Tukey HSD test indicated White youth had significantly higher problem severity symptoms at pre-group and post-group (*M* = 32.5, *SD* = 17.7; *M* = 34.5, *SD* = 22.1) compared to Black youth (*M* = 21.7, *SD* = 13.0; *M* = 18.9, *SD* = 15.5) and Hispanic youth (*M* = 23.2, *SD* = 15.4; *M* = 15.8, *SD* = 12.7). There were no differences in problem severity symptom by sex, *F* (1, 234) = .003, *p* = .95, and no interaction between sex and time on problem severity symptoms, Wilks Lambda = 1.0, *F* (1, 234) = .05, *p* = .83. Figure 13 (Appendix B) shows the average problem severity scores from pre- to post-group by race. Thus, sex did not have an impact on changes in problem severity symptoms from pre- to post-group, although race did have an impact on symptoms such that White youth had higher problem severity symptoms than other racial groups.

A mixed between-within subjects ANOVA was conducted to explore the impact of race on functioning scores from pre- to post-group. There was no significant interaction between race and time, Wilks Lambda = .98, *F* (3, 194) = 1.36, *p* = .26, such that changes in functioning scores from pre- to post-group did vary by race. There was a significant main effect for race, *F* (3, 194) = 5.14, *p* < .05, whereas White youth had significantly lower levels of functioning at pre-group and post-group (*M* = 50.6, *SD* = 13.1; *M* = 47.6, *SD* = 14.9) compared to Black youth (*M* = 59.9, *SD* = 11.5; *M* = 61.2, *SD* = 15.7) and Hispanic youth (*M* = 58.1, *SD* = 12.7; *M* = 62.3, *SD* = 13.9). There were no differences in functioning changes by sex, *F* (1, 233) = .124, *p* = .72, and no interaction between sex and time on functioning, Wilks Lambda = .97, *F* (1, 233) = .99, *p* = .32. Thus, sex did not have an influence on levels of functioning, however White children reported lower levels of functioning pre and post group compared to Black and Hispanic youth.. Figure 14 (Appendix B) shows the average functioning scores from pre- to post-group by race.

Pre- to Post-Group Changes in Symptoms and Functioning by Age

A mixed between-within subjects ANOVA was conducted to explore the impact of age on pre- to post-group CPSS, problem severity, and functioning scores. There were no differences in PTSD symptoms across time points by age, *F* (2, 257) = 1.75, *p* = .18, and no

interaction between age and time on PTSD symptoms, Wilks Lambda = .99, F (2, 257) = 1.69, p = .19.

There was a significant interaction between age and problem severity symptoms, Wilks Lambda = .97, F (2, 233) = 4.15, $p < .05$, such that those in the 7-12 and 13-15 age group showed a decrease in problem severity from pre- to post-group, while those in the 16-19 age group did not show any change. The main effect for age was not significant, F (2, 233) = .02, p = .98. There was also a significant interaction between age and functioning levels, Wilks Lambda = .97, F (2, 232) = 3.7, $p < .05$, such that youth in the 7-12 and the 16-19 age group showed increases in functioning while youth in the 13-15 age group did not show any change. The main effect for age was also significant, F (2, 232) = 9.4, $p <.000$, whereas 7-12 year old youth (M = 59.2, SD = 12.3; M = 64.4, SD = 13.0) showed a greater increase in functioning abilities from pre- to post-group compared to 13-15 year old youth (M = 56.3, SD = 11.5, M = 56.1, SD = 15.3) and 16-19 year old youth (M = 53.2, SD = 12.7; M = 54.5, SD = 15.1). Figure 15 (Appendix B) shows the average pre and post functioning scores by age group. Thus, age did not have an impact on pre- to post-group changes in PTSD symptoms, however older youth showed less improvement on problem severity symptoms than younger youth, and 13-15 year old youth showed less improvement in functioning than younger and older youth.

Comparisons of Non-Clinical Sample and Clinical Sample

Figure 5 shows the average CPSS scores from pre- to post-group for the non-clinical sample of children (N=48) compared to the children who were in the clinical range of PTSD symptom severity (N=212) pre-group. The non-clinical sample showed no significant change in symptoms from pre- to post-group, t (47) = 1.17, $p > .05$, while the clinical sample showed a significant decrease, t (211) = 14.1, $p < .001$. Thus, children who began the group with higher (clinical) levels of PTSD symptoms showed much greater improvement in PTSD symptoms, as expected.

Figure 5. Child PTSD Symptoms Overall and Clinically Elevated Populations

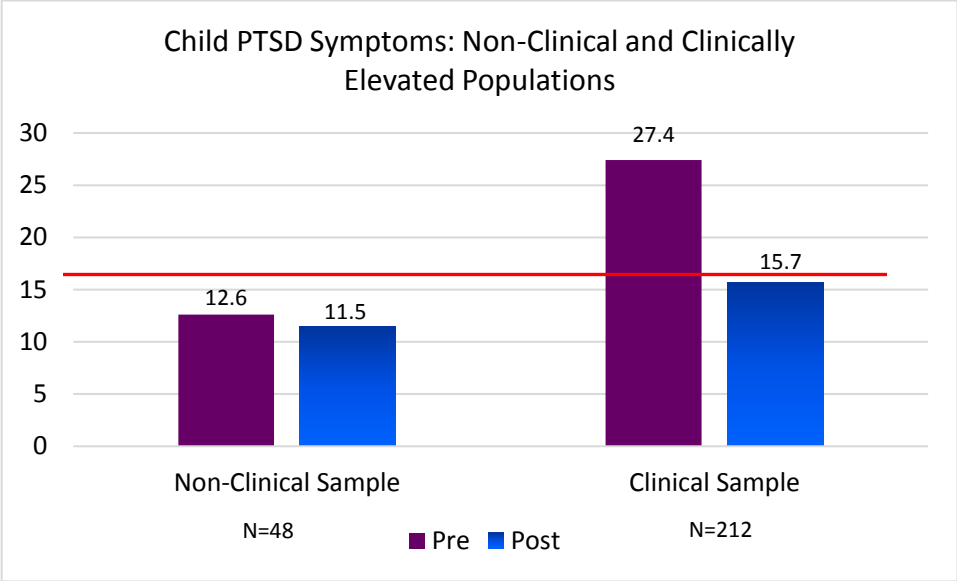


Figure 6 shows the average Ohio problem severity scores from pre- to post-group for the non-clinical sample of children (N=129) compared to the children who were in the clinical range (N=107) pre-group. Paired-samples t-tests showed the non-clinical sample had no significant change in problem severity scores from pre- to post-group, t (128) = -1.47, $p > .05$, while the average score for the clinical sample post-group showed them below the clinical cut-off, indicating a shift from critical impairment to borderline impairment, which was significant, t (106) = 8.46, $p < .001$. Figure 7 shows the average Ohio functioning scores from pre- to post-group for the non-clinical sample of children (N=204) compared to the children who were in the clinical range (N=31) pre-group. Both the non-clinical and clinical sample showed an increase in functioning abilities from pre- to post-group, and the clinical sample moved slightly above the clinical cut-off post-group, indicating a shift from critical impairment to borderline impairment. Paired-samples t-tests showed these increases in functioning were significant for both the non-clinical sample, t (203) = -2.13, $p < .05$, and the clinical sample, t (30) = -3.67, $p < .001$.

Figure 6. Child Problem Severity Symptoms: Non-Clinical and Clinically Elevated Populations

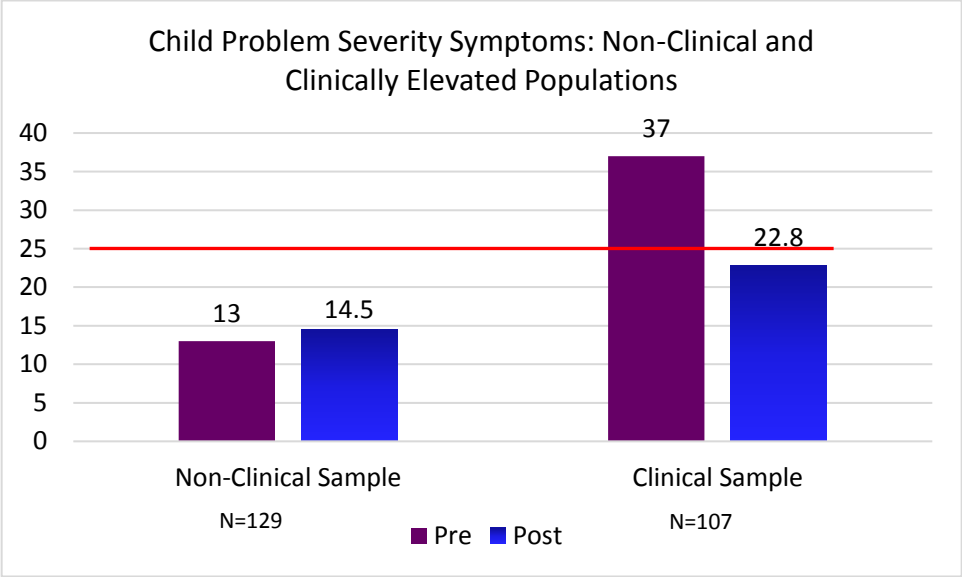
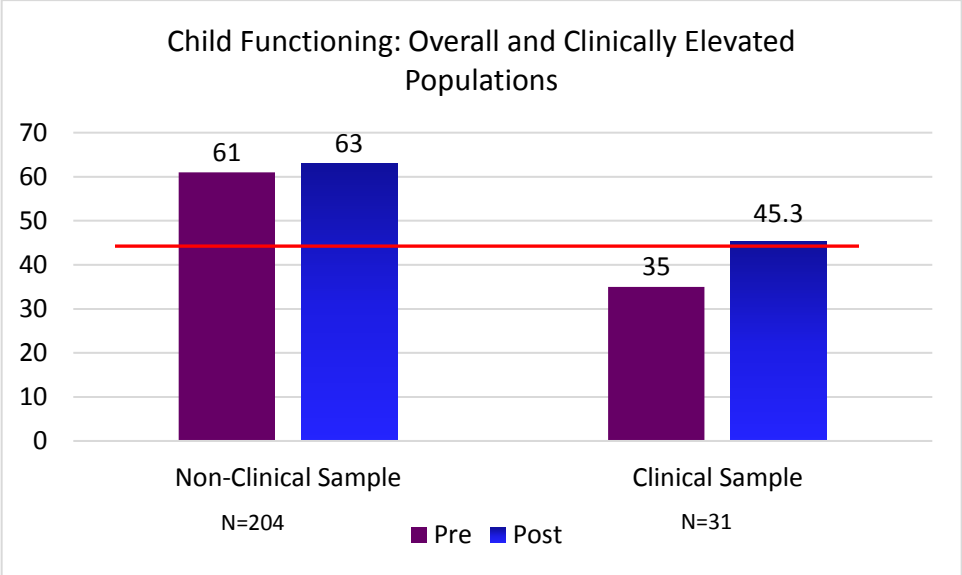


Figure 7. Child Functioning: Non-Clinical and Clinically Elevated Populations



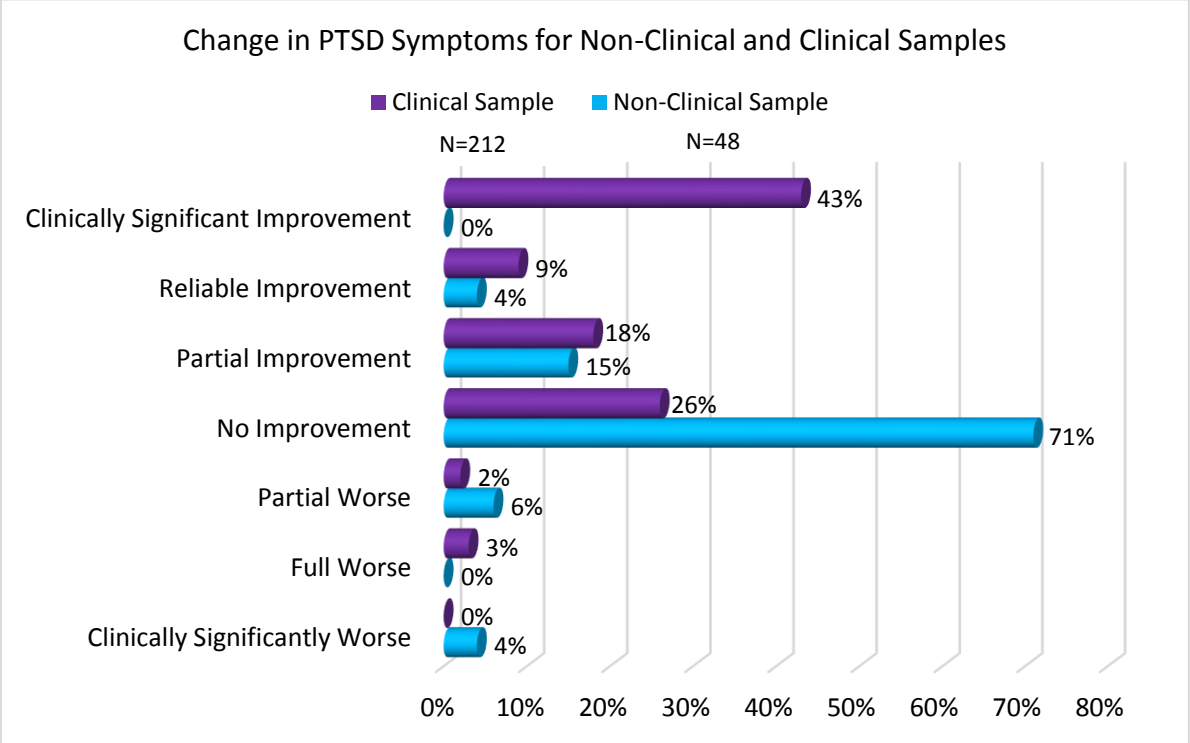
Reliable Change

PTSD, problem severity, and functioning scores were also assessed for reliable change from pre- to post-group. Reliable change is measured by first calculating the difference between pre- and post-group scores to determine a change score. The change score is then compared to a Reliable Change Index (RCI) value that takes into account the reliability of the measure; the change from pre- to post-group is considered reliable and not due to chance if it

exceeds the RCI value. The RCI values fall into six different categories; clinically significant improvement, reliable improvement, partial improvement, no improvement, partial worse, full worse, and clinically significant worse.

Reliable change on the CPSS was assessed for children who were in the clinical sample (scored 16+ pre-group) and the non-clinical sample at baseline. The child must have a decrease of 11 or more points on the CPSS from pre- to post-group for the change score to count as full reliable improvement. In addition to the decrease of 11 or more points, the child's CPSS score needs to drop from 16 or higher pre-group to a score of less than 16 post-group to fall in the clinically significant improvement category. As shown in Figure 8, the majority of children who began the group with clinically elevated PTSD symptoms showed reliable change. As expected, the majority of children who did not have elevated PTSD symptoms prior to the group showed no change in symptoms.

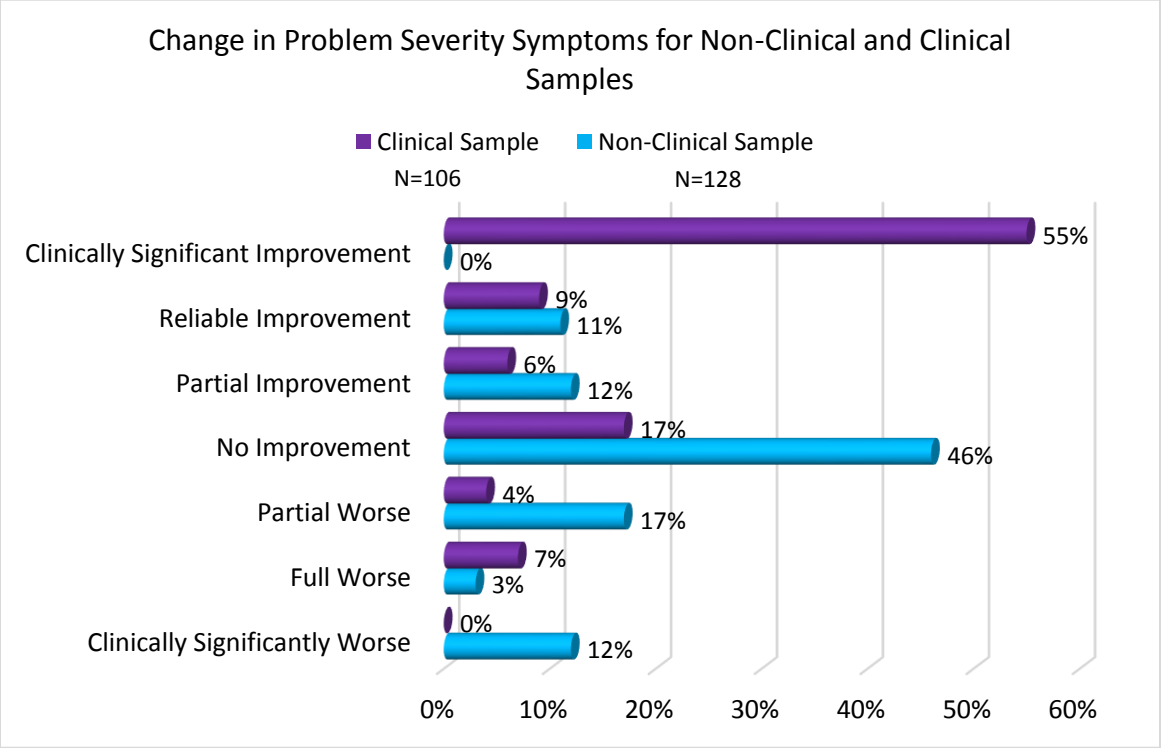
Figure 8. Change in PTSD Symptoms for Non-Clinical and Clinical Samples



Reliable change on the Ohio Problem Severity and Functioning Scales was also assessed for children who were in the clinical sample (25+ on Problem Severity, 44 or below on Functioning, pre-group) and the non-clinical sample. A decrease of 11 or more points on the Ohio Problem Severity Scale from pre- to post-group for the change score to count as full reliable improvement. In addition to the decrease of 11 or more points, their problem severity score needs to drop from 25 or higher pre-group to a score of less than 25 post-group to fall in

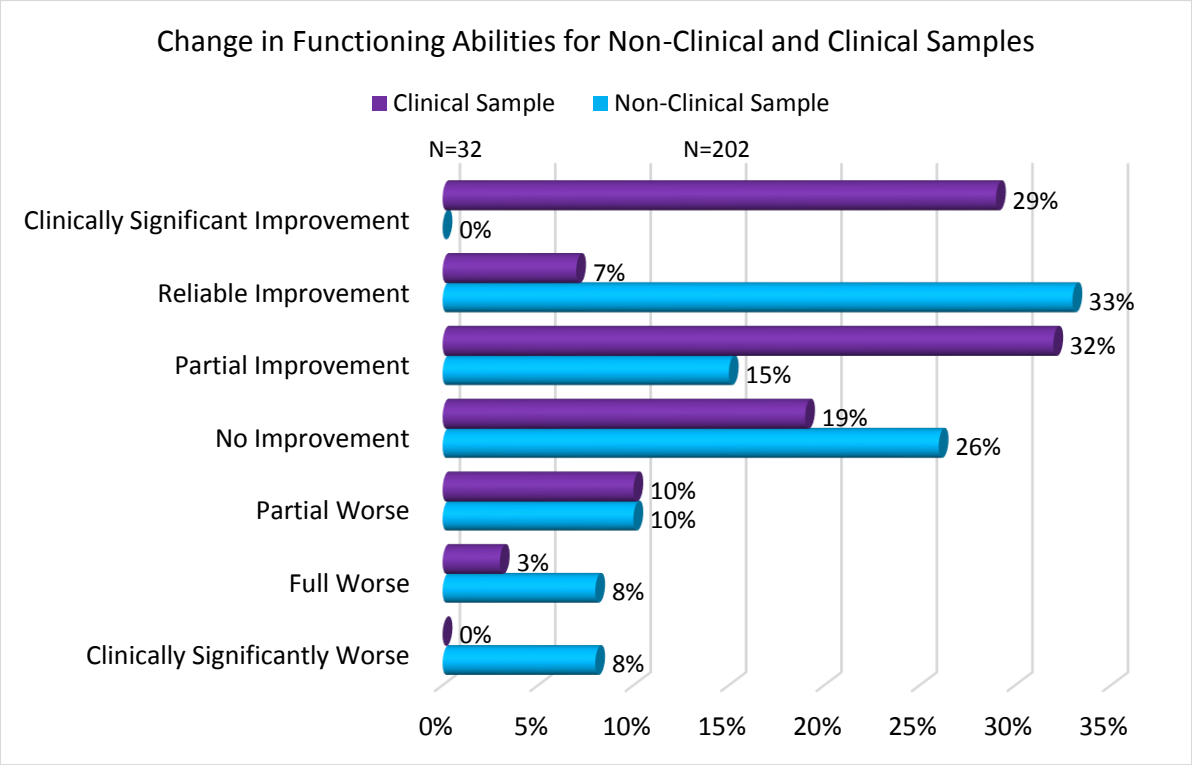
the clinically significant improvement category. As shown in Figure 9, 76% of children in the clinical range at baseline showed at least partial improvement in symptoms, while most of those in the non-clinical range showed no change in symptoms, as expected. However, there was an unexpected finding where 32% of those in the non-clinical group showed at least partial worsening of symptoms.

Figure 9. Change in Problem Severity Symptoms for Non-Clinical and Clinical Samples



For functioning, full reliable improvement is measured by an increase of 8 or more points on the Ohio Functioning Scale from pre- to post-group. In addition to the increase of 8 or more points, the child's functioning score needs to increase from 44 or below pre-group to a score of 44 or greater post-group to fall into the clinically significant improvement category. Sixty-eight percent of children in the clinical sample showed at least partial or reliable improvement for functioning, while 48% of children in the non-clinical sample did. Similar to PTSD and problem severity, there was also a small number of children who showed partial, full, or clinically significant deterioration for functioning. Figure 10 shows the change in functioning for the clinical and non-clinical samples.

Figure 10. Change in Functioning for Non-Clinical and Clinical Samples



Summary and Recommendations

Summary

The 60 CBITS groups completed between July 2015 through June 2016 served 288 children, with 263 (91%) completing a group and 81% of those present for all 10 group sessions, indicating a very high level of completion. Clinicians completed individual sessions with most children; caregiver sessions were completed with 53% of caregivers. Obtaining caregiver participation in school-based behavioral health work is a challenge, so this rate of participation is quite positive. Clinician self-reported adherence to the CBITS group, child, and caregiver session objectives and activities was very high. Most importantly, the children participating reported large reductions in PTSD symptoms, general behavior problems, and comparatively small but still significant increases in functioning. When PTSD, problem severity, and functioning scores were compared for clinical and non-clinical samples of children, it was found that children in the clinical sample showed more significant improvements. Additionally, children in the clinical sample showed higher rates of reliable and clinically significant improvement compared to children in the non-clinical sample for PTSD, problem severity, and functioning.

Exploratory analyses were also performed to examine the impact of race, sex, and age on PTSD symptoms, problem severity symptoms, and functioning abilities at both baseline and

from pre- to post-group. At baseline, the only significant difference found was for functioning; Black youth reported significantly higher functioning scores compared to youth whose race was Other.

There were few significant differences by race from pre- to post-group. White youth reported less improvement in PTSD symptoms during the course of the group compared to Black and Hispanic youth. In general, White youth showed less improvement on self-reported measures compared to children of other races. Interestingly, only youth in the 7-12 age group showed both a decrease in problem severity symptoms and a concurrent increase in functioning abilities; those in the 16-19 age group showed no change in problem severity symptoms from pre- to post-group but showed an increase in functioning, and youth in the 13-15 age group showed a decrease in problem severity symptoms but no change in functioning from pre- to post-group.

Recommendations

Children receiving CBITS showed significant improvements in their PTSD and problem severity symptoms as well as increases in functioning. While not assessed in the current initiative, it is reasonable to expect that these improvements translate into improved academic functioning, engagement, attendance, and reduced behavioral problems in school. However, one recommendation is to examine opportunities for evaluating the impact of CBITS on these academic functioning outcomes, which are typically the priority focus of most schools. In light of these positive results, the expansion of CBITS to additional providers and school districts is recommended to serve the numerous children who have been exposed to trauma. Additionally, the high number of children screened who were eligible for CBITS (50% of all children screened) and the compelling research on the prevalence of childhood trauma and its impact on learning and health suggests a need to enhance screening and ideally to incorporate trauma screening on a district- or school-wide basis. The differences between children in the clinical and non-clinical range of symptoms show that children who score in the clinical range at intake are improving significantly more than children who are not in the clinical range; it may be beneficial for future CBITS groups to focus on children who are in the clinical range if resources are limited and do not allow for serving all children deemed appropriate for CBITS. Finally, as CBITS scales up and agencies/school districts complete the learning communities, attention must be paid to sustainability plans for supporting CBITS programs in these communities beyond the initial training year. For example, opportunities to provide training and consultation to new clinicians, data collection and reporting, provision of CBITS toolkits for clinicians, and reimbursement structures must be considered.

Appendix A

CBITS Implementation and Child Outcomes Statewide and By Agency

Table 4. Statewide CBITS Implementation and Child Outcomes

	Jan 2015-June 2015	July 2015-June 2016	Total Cumulative or Average
# of Clinicians	1	21	22
# of Kids	4	288	292
Completion Rate	100%	91%	91%
CPSS Symptom Reduction	54%	40%	40%
Ohio Prob. Sev. Symptom Reduction	59%	24%	24%
Ohio Functioning Increase	37%	5%	6%

Table 5. CBITS Implementation and Child Outcomes by Agency

	Jan 15-Jun 15	Jul 15-Jun 16					
	Optimus	**Optimus**	**Southwest**	**CFA**	**CBC**	**Stamford**	**Total/Average**
# of Clinicians	1	2	2	5	6	6	22
# of Children	4	81	62	50	64	31	292
Completion Rate	100%	88%	92%	96%	95%	81%	91%
CPSS Symptom Reduction	54%	44%	57%	13%	40%	22%	40%
Ohio Prob. Sev. Symptom Reduction	59%	45%	24%	+3%	17%	+10%	24%
Ohio Func. Symptom Reduction	37%	13%	0%	-1%	6%	-5%	6%

Appendix B

CBITS Baseline Symptoms and Post-Group Outcomes by Race, Sex, and Age

Figure 11. Average Baseline Functioning Scores by Race

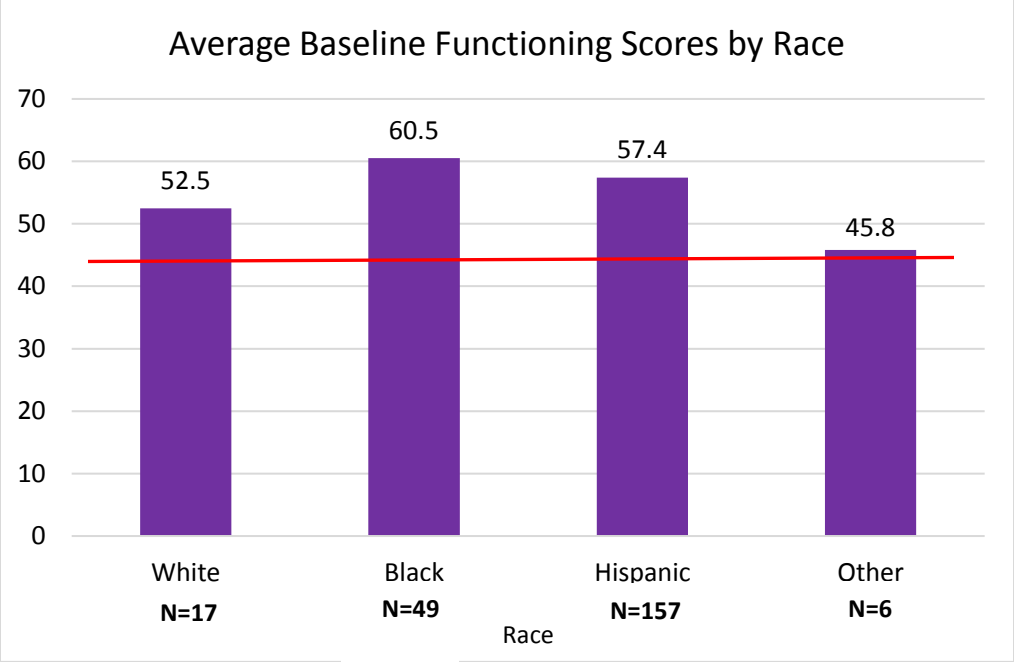


Figure 12. Average PTSD Scores Pre and Post Group by Race

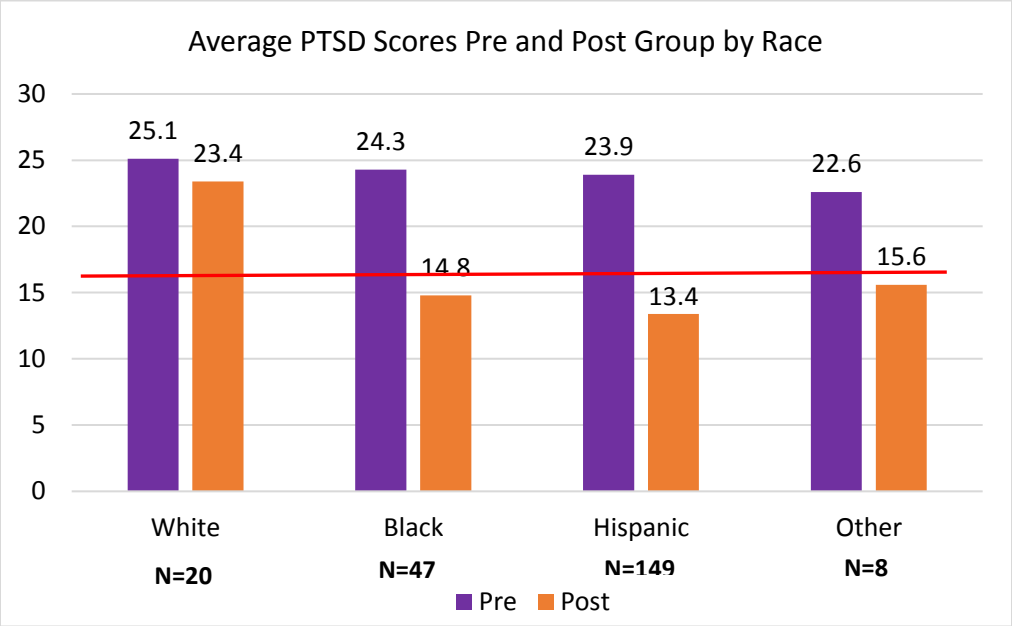


Figure 13. Average Problem Severity Scores Pre- and Post-Group by Race

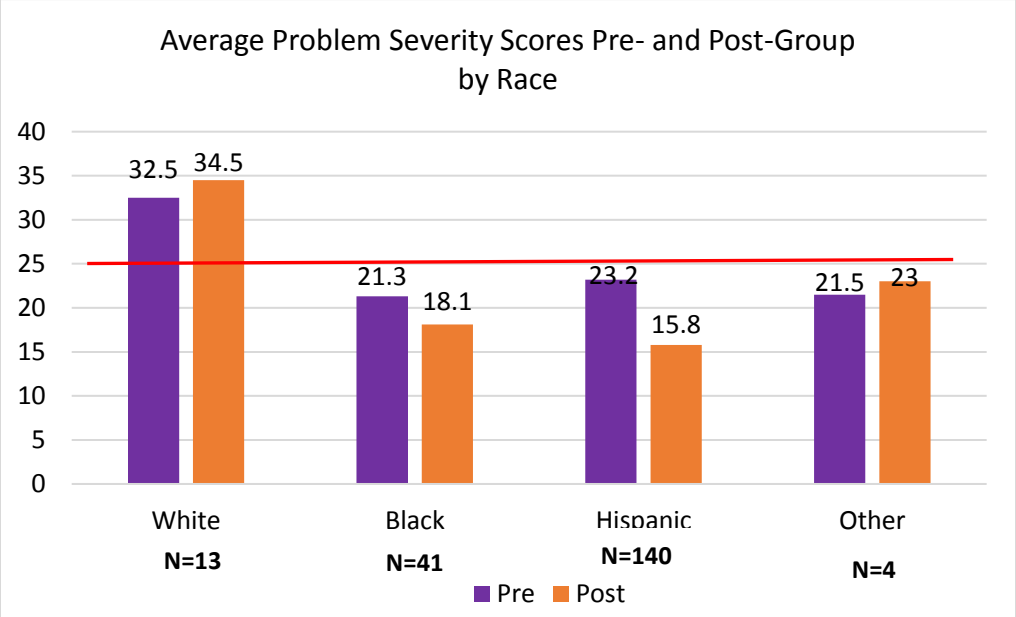


Figure 14. Average Functioning Scores Pre and Post Group by Race

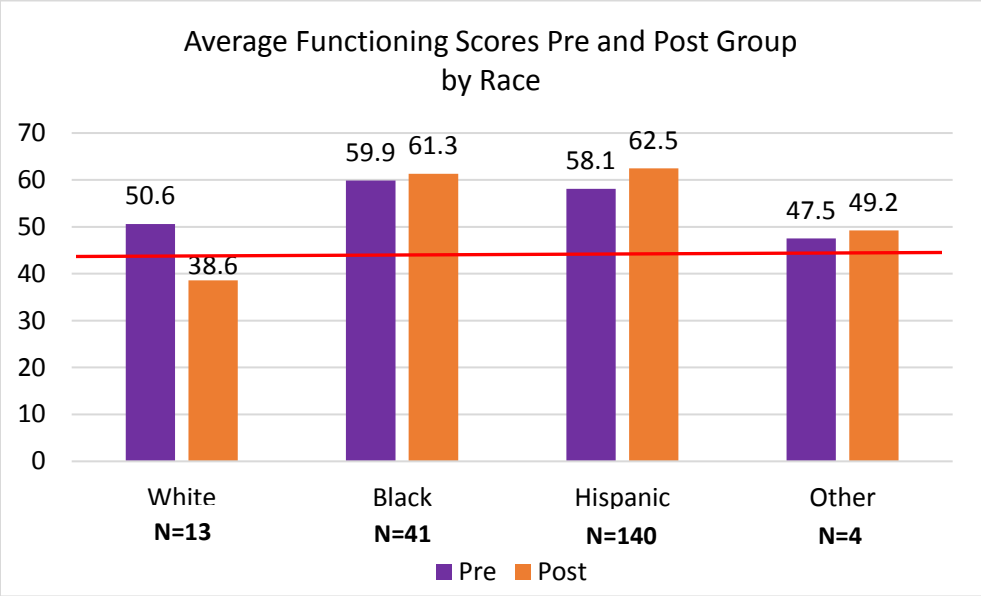


Figure 15. Average Functioning Scores Pre- and Post-Group by Age