# Improving Outcomes for Children Exposed to Violence

## Safe Start Promising Approaches

## Appendix B. Aurora, Colorado: Intervention, Study, and Results

Dana Schultz, Lisa H. Jaycox, Lynsay Ayer, Claude Messan Setodji, Ammarah Mahmud, Aaron Kofner, Dionne Barnes-Proby

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# Appendix B. Aurora, Colorado: Intervention, Study, and Results

## Introduction

The Aurora Safe Start program was a partnership between Aurora Mental Health Center (AuMHC) and the Kempe Center for the Prevention and Treatment of Child Abuse and Neglect, housed in the Department of Pediatrics at the University of Colorado School of Medicine. The research project and clinical services were run through AuMHC and its research institute, whereas the intervention model developers at the Kempe Center provided training and ongoing supervision. The program originally envisioned a close partnership with Aurora Public Schools, but this shifted toward a more general community approach as the project launched.

The Aurora Safe Start program served the city of Aurora, Colorado. According to the U.S. Census Bureau's 2014 American Community Survey (U.S. Census Bureau, 2016), Aurora had a population of 339,480 residents, 27 percent of whom were younger than age 18 and 8 percent of whom were younger than age 5. Approximately 46 percent of the population were white, 16 percent were black, 29 percent were Hispanic, and 9 percent were Native American, Asian, or other. The 2014 median household income was $52,275, and about 12 percent of the population were living at or below the poverty threshold. Of families with children under the age of 18, 19 percent were living at or below the poverty threshold. In 2014, the violent crime rate in Aurora was 266.3 per 100,000 residents, compared with the national average of 202.6 per 100,000 (City-Data.com).

The Aurora Safe Start program intervention consisted of a strategic enhancement of a proven intervention for children with PTSD. TF-CBT is a dyadic (parent–child) therapy focused on symptoms of PTSD (Judith Cohen, Mannarino, and Deblinger, 2006). After some years of experience with this model in Aurora, the Aurora Safe Start program aimed to enhance parent engagement in TF-CBT by adding sessions focused on improving caregivers' emotion-communication skills. Thus, the Safe Start project tested two interventions against each other: TF-CBT (12 to 16 total sessions) and TF-CBT + Let's Connect (16 to 20 total sessions). In addition to hypothesizing that there would be improved outcomes in the TF-CBT + Let's Connect arm, Aurora hypothesized that Let's Connect would improve retention in TF-CBT such that families in that arm of the study would attend more sessions.

The outcome evaluation reported here presents data relevant to the question of whether the Aurora Safe Start enhancement, as implemented within this project, improves engagement in intervention and outcomes for CEV over and above TF-CBT alone.

**Aurora Safe Start**

- **Intervention components:** TF-CBT (psychoeducation, parenting skills, relaxation, affect modulation, cognitive coping, trauma narrative, in vivo mastery of trauma reminders, conjoint parent–child sessions, enhancing future safety), with or without Let's Connect (two to four sessions to improve caregiver emotion-communication skills)
- **Intervention length:** TF-CBT: 12 to 16 weekly sessions; TF-CBT + Let's Connect: 16 to 20 weekly sessions
- **Intervention setting:** Clinic
- **Target population:** Children exposed to trauma with elevated symptoms of PTSD
- **Age range, in years:** 5 to 14
- **Primary referral sources:** AuMHC and primary medical care practices

## Intervention Summary

### *Referrals*

Referrals into the project came from established referral sources, as well as considerable outreach efforts. As shown in Table B.1, the Aurora Safe Start program received most of its referrals from within AuMHC or from other mental health agencies, and about one-third of referrals were generated through outreach to medical settings. Program staff also conducted outreach activities, such as attending meetings with AuMHC teams and Children's Hospital Colorado Outpatient Psychiatric Clinic team, informing the Aurora Police Department about the project, conducted training in Aurora Public Schools about the effects of trauma, and engaged the family resource providers at the Children's Advocacy Centers in the Denver metro area. In addition, Aurora used contact persons at these referral sites to maintain contact over the course of the project. Also, family liaisons were used in the school system to help identify and address any systematic barriers to engagement in the project.

**Table B.1. Aurora Safe Start Referral Sources**

| Referral Source | Number of Referrals | Percentage of Total (*n* = 235) |
|---|---|---|
| AuMHC or other mental health agency | 108 | 46 |
| Primary care physician or medical provider | 80 | 34 |
| Arapahoe County Department of Human Services | 10 | 4 |
| Schools | 5 | 2 |
| Community-based agency or service provider | 11 | 5 |
| Friend or family member | 7 | 3 |
| Self | 12 | 5 |
| Other | 2 | 1 |

Once a referred potential participant contacted the program, an intake coordinator completed an intake form, which included an eligibility assessment with questions pertaining to trauma exposure and current symptoms of PTSD, with at least four symptoms of PTSD required for

inclusion. Children with active suicidal ideation, severe developmental delays, or psychosis were excluded.

### *Intervention Components*

The Aurora Safe Start program consisted of a two types of dyadic (caregiver and child) psychotherapy models delivered in a mental health clinical setting for children ages 5–14 who experienced trauma and had symptoms of PTSD. The interventions were delivered by master's- or doctoral-level mental health practitioners on a weekly basis. Clients received intervention for 12 to 16 weeks in the TF-CBT group and 16 to 20 weeks in the TF-CBT + Let's Connect group.

#### Trauma-Focused Cognitive–Behavioral Therapy

TF-CBT (Judith Cohen, Mannarino, and Deblinger, 2006) is a short-term treatment for children who have experienced trauma and have elevated symptoms of PTSD. The model covers a wide array of different trauma types and a wide age range of children along with their nonoffending caregivers. TF-CBT has a well-established evidence base in several controlled clinical trials (see Judith Cohen, Mannarino, Deblinger, and Berliner, 2009, for a full review). It is typically delivered in 12 to 16 sessions but has a great deal of flexibility built into the model. Components can be summarized using the acronym PRACTICE:

- parental component, including parenting skills
- psychoeducation
- relaxation skills
- affect modulation skills
- cognitive coping skills
- trauma narrative and processing the traumatic event
- in vivo desensitization to trauma reminders
- conjoint child–parent sessions
- enhancing safety and future development.

TF-CBT had also already been adapted to address the needs of Latino families (De Arellano et al., 2005), including an emphasis on spirituality, *familismo*, gender roles, *personalismo*, respect, *simpatía*, fatalism, and folk beliefs. Aurora planned to use these adaptations with Latino families in the project and provided services in Spanish to monolingual families.

#### Let's Connect

Clinical researchers at the Kempe Center designed the enhancement component, Let's Connect. Let's Connect was based on (1) clinical and developmental research in children's emotional development, (2) feedback from clinicians during Kempe-led national TF-CBT training that indicates challenges facilitating parent–child discussion of trauma-related events, and (3) focus groups conducted at AuMHC with Latino families and therapists that highlighted discussion of trauma-related events as a particular challenge or barrier to intervention

engagement. Thus, Let's Connect was intended to improve caregivers' emotion-communication skills for talking with children about traumatic events or other emotionally arousing topics.

### *Design Overview*

The design of this study was an RCT, with randomization occurring at the family level. The intervention group under study received TF-CBT + Let's Connect for 16 to 20 weeks. Children in the comparison group received TF-CBT only for 12 to 16 weeks. Therapists delivered one intervention or the other (not both) and were closely supervised to ensure fidelity to the respective models. For both groups, we assessed child outcomes and contextual information at baseline, six, and 12 months. Chapter Two summarizes and Appendix A fully describes the measures used in this study. The measures were uniform across the national evaluation but prioritized within each site as to the relevance to the intervention under study. Given the nature of the Aurora Safe Start intervention, the outcomes were prioritized as shown in Table B.2.

**Table B.2. Aurora Prioritized Outcomes**

| Domain | Source or Measure | Child's Age, in Years | Respondent |
|---|---|---|---|
| Primary outcome measures | | | |
| Child PTSD symptoms | TSCYC PTSD | 5–10 | Caregiver |
| | CPSS total PTSD symptoms | 8–14 | Child |
| Secondary outcome measures | | | |
| Child PTSD symptoms | CPSS reexperiencing symptoms, avoidance symptoms, and arousal symptoms | 8–14 | Child |
| Family functioning | BERS-2 Family Involvement subscale | 6–12 | Caregiver |
| | | 11–14 | Child |
| Tertiary outcome measures | | | |
| Background and contextual | Attitudinal Barriers to Care | 5–14 | Caregiver |
| | ESI total stressors, resource problems, and personal problems | 5–14 | Caregiver |
| Behavior and conduct problems | Child behavior problems (BPI Total Scores and BPI Externalizing subscale) | 5–14 | Caregiver |
| | Delinquency | 11–14 | Child |
| | Substance Use | 11–14 | Child |
| | Gangs | 11–14 | Child |
| Social and emotional competence | SSIS cooperation, assertion, and self-control | 6–12 | Caregiver |
| | | 13–14 | Child |
| | BERS-2 Affective Strength subscale | 6–12 | Caregiver |
| | | 11–14 | Child |
| Child depression | RADS | 13–14 | Child |
| | BPI Internalizing subscale | 5–14 | Caregiver |
| School behavior and attitudes | BERS-2 School Functioning subscale | 6–12 | Caregiver |
| | | 11–14 | Child |
| | Self-reported grades | 13–14 | Child |
| Family functioning | FES Conflict scale | 5–14 | Caregiver |
| | | 11–14 | Child |
| | APQ positive involvement, negative or ineffective discipline, and deficient monitoring | 6–14 | Caregiver |
| | APQ parental involvement, positive parenting, poor monitoring and supervision, inconsistent discipline, and corporal punishment | 11–14 | Child |
| Violence exposure | JVQ child victimization experiences (total, child maltreatment, child assault, child sexual abuse, and child witnessing violence) | 5–11 | Caregiver |
| | | 10–14 | Child |
| | Caregiver victimization (total, non-DV, and DV) | 5–14 | Caregiver |
| Caregiver mental health | PHQ-8 depression scale | 5–14 | Caregiver |
| | PC-PTSD | 5–14 | Caregiver |

In addition to examining child outcomes, Aurora Safe Start also hypothesized that the Let's Connect sessions would enhance retention in TF-CBT, enabling more TF-CBT sessions to occur for those who started with Let's Connect. Thus, we examined the number of TF-CBT sessions attended as an additional primary outcome. We operationalized this as the total number of sessions attended in the TF-CBT-only group (because all sessions were of the TF-CBT type) and the number of total sessions attended minus two initial Let's Connect sessions to derive the number of TF-CBT sessions in the TF-CBT + Let's Connect intervention group. We also examined a dichotomous dosage variable such that we categorized anyone who received at least six sessions within the TF-CBT group and at least eight sessions within the TF-CBT + Let's Connect group as having received an adequate dose of TF-CBT.

Study enrollment took place between April 2012 and March 2015, with follow-up assessments completed at six and 12 months after enrollment on a rolling basis. However, with low follow-up rates in assessing families at 12 months, we discontinued those assessments partway through the study, in April 2014, meaning that six-month follow-up assessments ended in November 2015. Because of some issues with documentation of informed consent, study staff disenrolled some enrolled families and destroyed their data as directed by the human-subject protection committee that oversaw the project.

### *Analysis Plan and Power Calculations*

We conducted descriptive analyses to summarize the sample baseline characteristics: age, gender, race or ethnicity, family income level, child's violence exposure, and the outcome variables. The randomized controlled design makes it unlikely that there were differences between intervention and comparison groups, but we tested for differences in child and caregiver characteristics between intervention and comparison group children using *t*-tests and chi-squared tests to ensure that this was the case. We also examined whether those families who were lost to follow-up differed in any systematic way from those who were retained, using *t*-tests and chi-squared tests.

To assess the effect of the Safe Start intervention, we examined differences between children in the intervention and comparison groups at six and 12 months postbaseline. It is important to consider the power this study has for such an analysis. One way to describe power is by using the effect size difference between the two groups being compared. The effect size is a standardized measure of the strength of association between an intervention and an outcome and is defined as the average difference in an outcome between the intervention and comparison groups divided by the common SE. The effect size measure is commonly classified as small if it is about 0.2, medium if it is about 0.5, and large if it is about 0.8 (Jacob Cohen, 1988).

TF-CBT has a strong research base and has shown medium to large effects when implemented in clinical trials. Let's Connect is a new module designed to be added on to other comprehensive trauma treatment models; its effects are unknown. Given the robustness of

intervention offered to all study participants, we did not anticipate that participants receiving Let's Connect would evidence differential improvements in trauma-related outcomes; however, they might show increased intervention engagement (more sessions attended) and improvements in family functioning. Because of the robustness of intervention in both the intervention and comparison groups and Let's Connect's unknown effectiveness, we wanted to have enough power to detect a small effect on child outcomes. However, a combination of capacity and resource constraints made it impossible to plan for a fully powered study for this small effect. For the program's effect on the number of sessions attended, we examined data from SSPA and wanted to detect a medium effect on attendance and were able to plan a powered study to detect the intervention's impact on retention.

Tables B.3 and B.4 show the enrollment by group, comparing the actual enrollment with the target enrollment needed for power, assuming a 70-percent retention rate. Table B.3 shows the enrollment numbers in comparison to the numbers needed for power for child outcomes (a small effect), whereas Table B.4 shows the same related to power for retention in intervention (a medium effect). With total enrollment of 235 and assuming 70-percent retention, Aurora enrolled 32 percent of the sample size required to detect a small intervention effect but enrolled adequate numbers to be powered to detect a medium effect. However, Aurora's overall six-month retention rate of 68 percent for caregivers in the intervention group and 50 percent for the comparison group meant that it retained a total of 140 families in the study, representing 27 percent of the retained sample required to have an 80-percent chance of detecting a small intervention effect. At 12 months, Aurora's 30-percent retention rate in the intervention group and 27 percent in the comparison group meant that it retained 35 families representing 7 percent of the retained sample required to detect a small effect. Given the sample size for child outcomes, there was power to detect a medium effect of 0.49 at six months and a large effect of 1.00 at 12 months, according to Cohen's 1988 effect size classification.

**Table B.3. Aurora Required Versus Actual Enrollment for a Small Effect Size: Child Outcomes**

| Requirement | Intervention Group | Comparison Group | Total |
|---|---|---|---|
| Enrolled sample needed for power | 365 | 364 | 729 |
| Total enrollment | 124 | 111 | 235 |
| Percentage of needed enrollment | 34 | 30 | 32 |
| Retained sample needed for power | 255 | 255 | 510 |
| Retained sample, six months | 84 | 56 | 140 |
| Percentage of needed retention, six months | 33 | 22 | 27 |
| Retained sample, 12 months | 21 | 14 | 35 |
| Percentage of needed retention, 12 months | 8 | 5 | 7 |

**Table B.4. Aurora Required Versus Actual Enrollment for a Medium Effect Size: Intervention Retention**

| Requirement | Intervention Group | Comparison Group | Total |
|---|---|---|---|
| Enrolled sample needed for power | 125 | 125 | 250 |
| Total enrollment | 124 | 111 | 235 |
| Percentage of needed enrollment | 99 | 89 | 94 |

Because we have the data on number of sessions attended for all 235 clients, power was higher for detecting effects on the retention-in-intervention variable. We can expect a 97-percent chance to detect medium effect on retention. Given the sample size for retention, there was power to detect a small to medium effect of 0.37, according to Cohen's 1988 effect size classification.

Several factors other than overall sample size dampened statistical power. The range of children's ages meant that the full data were not available for some measures because not all children were in the age range eligible to complete that measure. Further, the corrections for the multiple statistical tests being conducted also reduced power.

We examined differences between the intervention and comparison groups using an intent-to-treat approach, which includes in analyses all assigned to the intervention group, regardless of the amount of services received. As discussed in Chapter Two, comparisons between a comparison group and only those who complete services (or receive a predetermined amount of services) are likely to provide biased results given that those who do not engage in services or drop out prior to completion might differ systematically from those who remain. Ideally, analyses would take into account the type and amount of services received to account for dosage variability; however, the numbers were too low to explore dosage in this study.

To examine differences between the intervention and comparison groups using the intent-to-treat approach described above, we present baseline and follow-up estimates of primary, secondary, and tertiary outcomes for both groups when the sample size is greater than or equal to five. We compare groups via chi-squared or *t*-tests at each time point, compare means within groups across time, and examine difference in differences to compare the two groups on changes over time between baseline and the six-month and 12-month assessments (when the sample size is at least ten per group). At the six-month follow-up, we conducted multiple linear regressions on the continuous outcomes and linear probability regressions on the dichotomous outcomes to test for the difference in differences via main effects and the interaction between intervention status and time after controlling for baseline characteristics (child age, child gender, child race and ethnicity, and child's exposure to violence). We selected these baseline characteristics to correct for any potential imbalance in the groups by relevant demographic characteristics. We present the adjusted models when the sample size is more than 20 per group. At the 12-month follow-up, we conducted multiple linear regressions on the continuous outcomes and linear

probability regressions on the dichotomous outcomes to test for the difference in differences via main effects and the interaction between intervention status and time after controlling for those same baseline characteristics, as well as six-month violence exposure.

When conducting large numbers of simultaneous hypothesis tests, as we did in this study, it is important to account for the possibility that some results will achieve statistical significance simply by chance. The use of a traditional 95-percent confidence interval, for example, will result in one out of 20 comparisons achieving statistical significance as a result of random error. We therefore adjusted for false positives using the FDR method (Benjamini and Hochberg, 1995). We based our assessments of statistical significance on applying the FDR procedure separately to the primary, secondary, and tertiary outcome tests in this report using an FDR of 0.05, as reported in Tables B.11 and B.12. In the discussion of results, we have also identified significant trends in the data, defined as those tests with *p*-values of less than 0.05 without adjusting for multiple significance tests. Although these results might suggest a practical difference that would be statistically significant with a larger sample, they must be interpreted with caution because we cannot rule out that the difference was due to chance because of the multiple significance tests being conducted.

## Study Results

### *Enrollment and Retention*

Site visits to Aurora revealed some issues with randomization and therapist capacity, with the randomization causing some therapists to have high caseloads and therefore not able to accept new patients, whereas therapists in the other arm of the study had room to take more. In addition, as described earlier, some problems with documentation of consents caused the program to have to disenroll some families and destroy their data, lowering its final enrollment numbers. It also struggled with retention in the study, with many families not completing the follow-up assessments despite being engaged in intervention. It revised its data collection strategy to engage the therapists in scheduling follow-up assessments, initiated monthly follow-up calls to enrolled families, and began discussing potential barriers with families at the first therapy session in order to address this but saw its clientele as highly mobile and difficult to track.

As a result of these issues, Aurora enrolled a total of 235 families in the study with 124 in the intervention group and 111 in the comparison group. In Table B.5, we present the number and percentage of all enrollees who were eligible for participation at each follow-up data collection time point. As shown, 68 percent of families enrolled in the intervention group were retained for the six-month caregiver assessment, with 50 percent retained in the comparison group. Retention for the caregiver assessment at 12 months was 30 percent for the intervention group and 27 percent for the comparison group.

**Table B.5. Retention of Enrollees Eligible to Participate in Assessments at Each Time Point**

| | Caregiver Assessment | | Child Assessment | |
|---|---|---|---|---|
| **Enrollee** | **Six Months** | **12 Months** | **Six Months** | **12 Months** |
| Intervention | | | | |
| Completed | 84 | 21 | 59 | 13 |
| Expected | 124 | 71 | 94 | 51 |
| Retention rate, as a percentage | 68 | 30 | 63 | 25 |
| Comparison | | | | |
| Completed | 56 | 14 | 37 | 11 |
| Expected | 111 | 52 | 80 | 33 |
| Retention rate, as a percentage | 50 | 27 | 46 | 33 |

Aurora's low retention at the follow-up assessments increases the potential for biased results. First, low retention overall might be related to intervention factors that lead to selection bias, causing the characteristics of the study sample to shift. For example, if families in more distress are more likely to leave the study and be lost to follow-up, the results can be misleading and would allow us to generalize only to families with less distress. Similarly, the retention differed a good deal between the intervention and comparison groups in Aurora, making it possible that one group was more biased than the other and potentially resulting in a lack of balance between the groups on key characteristics, increasing the possibility of misleading results.

### *Baseline Descriptive Statistics*

For the descriptive statistics, we provide the characteristics for the full sample enrolled at baseline. As shown in Table B.6, children who participated were, on average, 9.4 years old (range 5 to 15), with 54 percent being male. The racial and ethnic background of families was 42 percent Hispanic, 34 percent white, 12 percent black, and 12 percent other. Families reported a range of family incomes, with 44 percent reporting annual incomes below $30,000. Caregivers reported an average exposure to 1.7 types of violence for the child in the past six months, whereas children self-reported an average of 1.4 types of violence exposure in the past six months. We observed no statistically significant differences between the intervention and comparison groups at baseline.

**Table B.6. Aurora Safe Start Baseline Sample Characteristics**

| Characteristic | Combined | | Intervention | | Comparison | | Test for Comparison *p*-Value |
|---|---|---|---|---|---|---|---|
| | *N* | Mean (SD) | *N* | Mean (SD) | *N* | Mean (SD) | |
| Child | | | | | | | |
| Age | 235 | 9.4 (2.4) | 124 | 9.6 (2.4) | 111 | 9.3 (2.3) | 0.35 |
| CR of violence exposure | 180 | 1.7 (2.0) | 91 | 1.7 (1.8) | 89 | 1.7 (2.2) | 0.87 |
| SR of violence exposure | 100 | 1.4 (1.7) | 56 | 1.5 (1.8) | 44 | 1.3 (1.6) | 0.44 |
| | | **Percentage** | | **Percentage** | | **Percentage** | |
| Child | | | | | | | |
| Gender | | | | | | | 0.60 |
| Male | 127 | 54 | 69 | 56 | 58 | 52 | |
| Female | 108 | 46 | 55 | 44 | 53 | 48 | |
| Race and ethnicity | | | | | | | 0.98 |
| Hispanic | 98 | 42 | 51 | 41 | 47 | 42 | |
| White | 81 | 34 | 44 | 35 | 37 | 33 | |
| Black | 28 | 12 | 15 | 12 | 13 | 12 | |
| Other | 28 | 12 | 14 | 11 | 14 | 13 | |
| Caregiver | | | | | | | |
| Family income level | | | | | | | 0.81 |
| Less than $10,000 | 33 | 15 | 18 | 16 | 15 | 15 | |
| $10,001–20,000 | 37 | 17 | 17 | 15 | 20 | 19 | |
| $20,001–30,000 | 26 | 12 | 15 | 13 | 11 | 11 | |
| More than $30,000 | 121 | 56 | 64 | 56 | 57 | 55 | |
| Relationship to child | | | | | | | 0.21 |
| Parent or guardian | 115 | 96 | 59 | 94 | 56 | 98 | |
| Other relationship | 5 | 4 | 4 | 6 | 1 | 2 | |

NOTE: Because of missing data, some numbers might not sum as shown.

In the sample of families who were retained in the study at six and 12 months, these characteristics were similar to those shown in Table B.6 except that, on average, children had been exposed to fewer than one type of violence since the last assessment (data not shown). In Aurora at six months, there was a significant difference between the intervention and comparison groups in family income ($p = 0.04$). However, there were no statistically significant differences between those who were lost to follow-up and those who were retained at six months (data not shown).

We also examined the Aurora sample at baseline on three outcomes (PTSD symptoms, child depressive symptoms, and caregiver depressive symptoms) to describe the level of severity on these indexes among families entering the study (Table B.7). At baseline, the majority of caregivers reported symptoms of PTSD in the significant (76 percent) range for their children (similar for boys and girls), and 75 percent of children ages 8–14 reported high levels of PTSD symptoms (70 percent for boys and 79 percent for girls). Also at baseline, about half of children ages 13–14 self-reported depressive symptoms in the moderate to severe clinical range (52 percent). Eight percent of caregivers reported their own depressive symptoms in the moderately severe or severe range.

**Table B.7. Baseline Assessment Estimates for Aurora Families**

| | Combined | | Boys | | Girls | |
|---|---|---|---|---|---|---|
| **Assessment** | ***N*** | **Percentage** | ***N*** | **Percentage** | ***N*** | **Percentage** |
| CR of child PTSD symptoms, ages 3–10 | | | | | | |
| Normal | 20 | 14 | 11 | 14 | 9 | 15 |
| Borderline | 13 | 9 | 9 | 12 | 4 | 6 |
| Significant | 107 | 76 | 58 | 74 | 49 | 79 |
| SR of child PTSD symptoms, ages 8–14 | | | | | | |
| Low | 43 | 25 | 27 | 30 | 16 | 21 |
| High | 126 | 75 | 64 | 70 | 62 | 79 |
| SR of child depression, ages 13–14 | | | | | | |
| Normal range | 4 | 17 | 1 | 11 | 3 | 21 |
| Mild clinical range | 7 | 30 | 3 | 33 | 4 | 29 |
| Moderate clinical range | 9 | 39 | 3 | 33 | 6 | 43 |
| Severe clinical range | 3 | 13 | 2 | 22 | 1 | 7 |
| Caregiver depression | | | | | | |
| None or minimal | 120 | 52 | 67 | 54 | 53 | 50 |
| Mild | 61 | 26 | 37 | 30 | 24 | 23 |
| Moderate | 31 | 13 | 13 | 10 | 18 | 17 |
| Moderately severe | 10 | 4 | 5 | 4 | 5 | 5 |
| Severe | 9 | 4 | 3 | 2 | 6 | 6 |

NOTE: Because of missing data, some numbers might not sum as shown.

Finally, we examined differences between the intervention and comparison groups at baseline for Aurora's primary, secondary, and tertiary outcomes (see Table B.14). At baseline, there were no differences between groups for the primary, secondary, or tertiary child outcomes (aside from one tertiary outcome that did not withstand the correction for multiple testing), indicating that the randomization resulted in balanced groups. Table B.14 also summarizes cross-

sectional differences between the intervention and comparison groups at the six- and 12-month follow-up time points for Aurora's primary, secondary, and tertiary outcomes. Besides some differences observed in tertiary outcomes at six months that did not withstand correction for multiple testing, the two groups did not differ from each other in terms of child outcomes.

### *Uptake, Dosage, and Process of Care*

The program recorded family-level service data on the follow-up service survey and submitted the data at six and 12 months after the baseline assessment. Table B.8 shows the type and amount of services received for all families who were initially enrolled in the intervention group, regardless of whether they continued to participate in the ongoing research assessment. The data displayed in Tables B.8 and B.9 include services received by summing all time points that the program reported.

**Table B.8. Services That Aurora Safe Start Intervention Families Received**

| | Received Service | | Number of Sessions | | |
|---|---|---|---|---|---|
| **Service** | ***N*** | **Percentage** | **Range** | **Mean** | **Median** |
| Baseline sample (*n* = 124) | | | | | |
| TF-CBT + Let's Connect (caregiver and child) | 114 | 92 | 0–28 | 14.2 | 16.5 |
| TF-CBT + Let's Connect (caregiver only) | 14 | 11 | 0–7 | 0.2 | 0.0 |
| TF-CBT + Let's Connect (child only) | 12 | 10 | 0–5 | 0.2 | 0.0 |
| Six-month analysis sample (*n* = 84) | | | | | |
| TF-CBT + Let's Connect (caregiver and child) | 84 | 100 | 1–28 | 16.5 | 17.0 |
| TF-CBT + Let's Connect (caregiver only) | 11 | 13 | 0–3 | 0.2 | 0.0 |
| TF-CBT + Let's Connect (child only) | 9 | 11 | 0–5 | 0.2 | 0.0 |
| 12-month analysis sample (*n* = 21) | | | | | |
| TF-CBT + Let's Connect (caregiver and child) | 20 | 95 | 0–25 | 18.2 | 19.0 |
| TF-CBT + Let's Connect (caregiver only) | 3 | 14 | 0–3 | 0.2 | 0.0 |
| TF-CBT + Let's Connect (child only) | 0 | 0 | — | 0.0 | 0.0 |

NOTE: — = Cell is too small to show.

**Table B.9. Services That Aurora Safe Start Comparison Families Received**

| | With Service | | Number of Sessions | | |
|---|---|---|---|---|---|
| **Service** | ***N*** | **Percentage** | **Range** | **Mean** | **Median** |
| Baseline sample (*n* = 111) | | | | | |
| TF-CBT (caregiver and child) | 100 | 90 | 0–28 | 11.4 | 13.0 |
| TF-CBT (caregiver only) | 4 | 4 | 0–3 | 0.1 | 0.0 |
| TF-CBT (child only) | 14 | 13 | 0–4 | 0.2 | 0.0 |
| Six-month analysis sample (*n* = 56) | | | | | |
| TF-CBT (caregiver and child) | 53 | 95 | 0–28 | 14.4 | 16 |
| TF-CBT (caregiver only) | 1 | 2 | 0–1 | 0.0 | 0.0 |
| TF-CBT (child only) | 6 | 11 | 0–4 | 0.3 | 0.0 |
| 12-month analysis sample (*n* = 14) | | | | | |
| TF-CBT (caregiver and child) | 14 | 100 | 1–24 | 16.3 | 16.5 |
| TF-CBT (caregiver only) | 0 | 0 | — | 0.0 | 0.0 |
| TF-CBT (child only) | 1 | 8 | — | 0.1 | 0.0 |

NOTE: — = Cell is too small to show.

As shown in the top portion of Table B.8, most (92 percent) of the 124 families in the baseline sample received some services within the intervention, with an average of 14.2 conjoint parent–child sessions and a handful of caregiver-only or child-only sessions. Among only the families who received the services, the average was 15.5 for conjoint parent–child sessions. The middle portion of Table B.8 shows the services received during the six months between baseline and the six-month assessment by the subgroup of intervention group families who participated in the six-month follow-up research assessment. These are the 84 families included in the intervention group in the outcome analysis sample for the Aurora program. As shown in Table B.8, all of the families assessed at six months received some services, with an average of 16.5 conjoint sessions. At 12 months (bottom portion of Table B.8), only 21families were assessed, and almost all (95 percent) received conjoint sessions (average of 18.2 sessions).

Similarly, Table B.9 shows the same data for families in the comparison group. Most families in the baseline and six-month sample received services (90 percent of the baseline sample and 95 percent of the six-month sample), with an average of 11.4 and 14.4 conjoint sessions, respectively. All of the families assessed at 12 months had completed conjoint sessions (16.3 sessions on average), but the number of families at this point was very small.

On the caregiver survey, we asked caregivers in the intervention group about their satisfaction with Safe Start services (Table B.10). Results show that the caregivers who took part in the enhanced intervention (TF-CBT + Let's Connect) reported high satisfaction on every item (close to very satisfied or the highest relevant rating on each item).

**Table B.10. Satisfaction with Services That Aurora Safe Start Intervention Families Received**

| | Six Months | | | 12 Months | | |
|---|---|---|---|---|---|---|
| **Satisfaction** | ***N*** | **Mean** | **SD** | ***N*** | **Mean** | **SD** |
| Rate quality of service | 60 | 3.93 | 0.25 | 9 | 3.89 | 0.33 |
| Got the kind of service wanted | 60 | 3.92 | 0.28 | 9 | 3.89 | 0.33 |
| Program met needs | 60 | 3.73 | 0.45 | 9 | 3.33 | 0.71 |
| Would recommend to a friend | 60 | 3.95 | 0.22 | 9 | 4.00 | 0.00 |
| Satisfied with help received | 60 | 3.80 | 0.68 | 9 | 3.33 | 1.00 |
| Helped deal more effectively with problems | 60 | 3.87 | 0.34 | 9 | 4.00 | 0.00 |
| Satisfied with service | 60 | 3.93 | 0.25 | 9 | 3.89 | 0.33 |
| Would come back to program | 60 | 3.87 | 0.47 | 9 | 4.00 | 0.00 |

## Key Outcome Findings

We begin by analyzing changes in mean scores over time both within the intervention and comparison groups and between the groups. For these analyses, we used an intent-to-treat approach that included all families allocated to the intervention, regardless of the level of service they received. The first set of columns of numbers in Table B.11 describes differences within groups between the baseline and the six-month assessment, with paired *t*-tests comparing each participant at each follow-up wave to his or her own score at the baseline assessment and adjusting for multiple testing. At six months, we observed statistically significant improvements in both groups for both of the primary PTSD outcomes as well as one of the two secondary outcomes (CR of family involvement but not SR of family involvement) and seven of the 48 tertiary outcomes with a large enough sample size (e.g., behavioral problems, self-control, assertion, affective strengths, and experiences of victimization). On the other hand, we noted some significant changes in tertiary outcomes in the intervention group but not the comparison group (also seven of the 48 tertiary outcomes with a large enough sample size), such as caregiver stressors, child cooperation, some aspects of caregiver ineffective discipline, and a few aspects of child exposure to violence.

Table B.11 also shows intervention effects over time using an intent-to-treat approach in which all families in the intervention are compared with all those in the comparison group, regardless of the actual amount of intervention received in the intervention group. Because any change in outcomes observed can potentially be the result of a time trend observed in all children in the study, we used a difference-in-differences method to assess the unadjusted impact of the program. In the difference-in-differences models presented in the second set of data columns, there was no evidence of intervention effects associated with any of the primary, secondary, or tertiary outcomes. The adjusted models in the third set of columns control for child age, child gender, child race and ethnicity, household income, and parent report of violence exposure and

likewise indicate no difference in differences in the child outcomes. That is, improvements observed in the two groups did not differ significantly from one another. The results in Table B.11 can also be discussed in terms of effect sizes for Aurora's primary outcomes. Within-group change in the PTSD symptom scale were large for the TF-CBT + Let's Connect intervention (–0.91 [–1.33 – –0.48] for the CR; –0.72 [–1.10 – –0.34] for the SR). However, the adjusted between-group effect sizes were small and inconsistent across the two measures (–0.09 [–0.37 – 0.19] for SR; 0.22 [–0.06 – 0.51] for CR), indicating again that the two groups did not differ much in terms of their improvement.

**Table B.11. Changes in Means for Outcome Variables Between Baseline and Six-Month Assessment and Group-Level Comparison of Mean Changes**

| | | Within-Family Mean Change[a] | | | | Group-Level Comparison of Mean Changes | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Unadjusted Model[b] | | | Adjusted Model[c] | | |
| Outcome | | *N* | Estimate | SE | *p*-Value | Estimate | SE | *p*-Value | Estimate | SE | *p*-Value |
| Primary | | | | | | | | | | | |
| CR of child PTSD symptoms (ages 5–10) | Intervention | 47 | –12.04 | 1.93 | <0.01[d]* | 5.83 | 4.10 | 0.16 | 6.54 | 4.25 | 0.13 |
| | Comparison | 39 | –17.87 | 2.43 | <0.01[d]* | | | | | | |
| SR of child PTSD symptoms (ages 8–14) | Intervention | 57 | –8.74 | 1.61 | <0.01[d]* | –1.18 | 2.89 | 0.68 | –1.75 | 2.89 | 0.55 |
| | Comparison | 36 | –7.56 | 1.78 | <0.01[d]* | | | | | | |
| SR of PTSD reexperiencing symptoms | Intervention | 57 | –3.07 | 0.61 | <0.01[d]* | 0.46 | 1.03 | 0.66 | 0.52 | 0.05 | 0.62 |
| | Comparison | 36 | –3.53 | 0.61 | <0.01[d]* | | | | | | |
| SR of PTSD avoidance symptoms | Intervention | 57 | –3.32 | 0.68 | <0.01[d]* | –0.73 | 1.24 | 0.55 | –1.05 | 1.23 | 0.40 |
| | Comparison | 36 | –2.58 | 0.89 | 0.01[d]* | | | | | | |
| SR of PTSD arousal symptoms | Intervention | 57 | –2.35 | 0.52 | <0.01[d]* | –0.91 | 1.10 | 0.41 | –1.23 | 1.07 | 0.25 |
| | Comparison | 36 | –1.44 | 0.61 | 0.02[d]* | | | | | | |
| Secondary | | | | | | | | | | | |
| CR of family involvement (ages 6–12) | Intervention | 69 | 2.38 | 0.53 | <0.01[d]* | 0.28 | 1.34 | 0.84 | 0.29 | 1.37 | 0.83 |
| | Comparison | 50 | 2.10 | 0.53 | <0.01[d]* | | | | | | |
| SR of family involvement (ages 11–14) | Intervention | 31 | 1.29 | 0.68 | 0.07 | –0.14 | 2.21 | 0.95 | — | — | — |
| | Comparison | 14 | 1.43 | 0.70 | 0.06 | | | | | | |
| Tertiary | | | | | | | | | | | |
| CR of attitudinal barriers to care | Intervention | 84 | –0.31 | 0.19 | 0.11 | –0.27 | 0.33 | 0.41 | –0.27 | 0.36 | 0.46 |
| | Comparison | 56 | –0.04 | 0.19 | 0.85 | | | | | | |
| CR of caregiver total stressors | Intervention | 84 | –3.31 | 0.85 | <0.01[d]* | –0.56 | 2.12 | 0.79 | –1.42 | 2.20 | 0.52 |
| | Comparison | 55 | –2.75 | 1.09 | 0.01[d] | | | | | | |

| Outcome | | N | Within-Family Mean Change[a] Estimate | SE | p-Value | Group-Level Comparison of Mean Changes: Unadjusted Model[b] Estimate | SE | p-Value | Adjusted Model[c] Estimate | SE | p-Value |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CR of caregiver resource problems | Intervention | 84 | –1.13 | 0.36 | <0.01[d] | –0.42 | 0.89 | 0.64 | –0.74 | 0.93 | 0.43 |
| | Comparison | 55 | –0.71 | 0.49 | 0.16 | | | | | | |
| CR of caregiver personal problems | Intervention | 84 | –2.18 | 0.63 | <0.01[d]* | –0.14 | 1.50 | 0.92 | –0.68 | 1.51 | 0.65 |
| | Comparison | 55 | –2.04 | 0.71 | 0.01[d] | | | | | | |
| CR of child total behavior problems (ages 5–14) | Intervention | 84 | –7.24 | 0.78 | <0.01[d]* | –2.01 | 1.75 | 0.25 | –2.07 | 1.79 | 0.25 |
| | Comparison | 56 | –5.23 | 0.90 | <0.01[d]* | | | | | | |
| CR of child externalizing behavior problems (ages 5–14) | Intervention | 84 | –4.08 | 0.49 | <0.01[d]* | –1.53 | 1.20 | 0.20 | –1.62 | 1.18 | 0.17 |
| | Comparison | 56 | –2.55 | 0.54 | <0.01[d]* | | | | | | |
| SR of child delinquency (ages 11–14) | Intervention | 31 | –0.13 | 0.08 | 0.10 | –0.20 | 0.23 | 0.38 | — | — | — |
| | Comparison | 14 | 0.07 | 0.16 | 0.67 | | | | | | |
| SR of child drug use (ages 11–14) | Intervention | 30 | 0.00 | 0.00 | — | 0.21 | 0.11 | 0.06 | — | — | — |
| | Comparison | 14 | –0.21 | 0.11 | 0.08 | | | | | | |
| SR of child gang involvement (ages 11–14) | Intervention | 30 | 0.00 | 0.05 | 1.00 | 0.07 | 0.08 | 0.40 | — | — | — |
| | Comparison | 14 | –0.07 | 0.07 | 0.34 | | | | | | |
| CR of child cooperation (ages 5–12) | Intervention | 76 | 2.04 | 0.38 | <0.01[d]* | 0.52 | 1.05 | 0.62 | 0.34 | 0.99 | 0.73 |
| | Comparison | 52 | 1.52 | 0.50 | <0.01[d] | | | | | | |
| CR of child assertion (ages 5–12) | Intervention | 76 | 1.96 | 0.37 | <0.01[d]* | –1.26 | 0.96 | 0.19 | –1.43 | 0.98 | 0.14 |
| | Comparison | 49 | 3.22 | 0.56 | <0.01[d]* | | | | | | |
| CR of child self-control (ages 5–12) | Intervention | 74 | 2.66 | 0.50 | <0.01[d]* | –0.32 | 1.24 | 0.80 | –0.53 | 1.21 | 0.66 |
| | Comparison | 51 | 2.98 | 0.61 | <0.01[d]* | | | | | | |
| SR of child cooperation (ages 13–14) | Intervention | 8 | — | — | — | — | — | — | — | — | — |
| | Comparison | 4 | — | — | — | | | | | | |
| SR of child assertion (ages 13–14) | Intervention | 8 | — | — | — | — | — | — | — | — | — |
| | Comparison | 4 | — | — | — | | | | | | |
| SR of child self-control (ages 13–14) | Intervention | 8 | — | — | — | — | — | — | — | — | — |
| | Comparison | 4 | — | — | — | | | | | | |
| CR of child affective strengths (ages 6–12) | Intervention | 70 | 1.64 | 0.38 | <0.01[d]* | –0.48 | 1.00 | 0.63 | –0.49 | 1.06 | 0.64 |
| | Comparison | 50 | 2.12 | 0.53 | <0.01[d]* | | | | | | |

| Outcome | | N | Within-Family Mean Change[a] Estimate | SE | p-Value | Group-Level Comparison of Mean Changes: Unadjusted Model[b] Estimate | SE | p-Value | Adjusted Model[c] Estimate | SE | p-Value |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SR of child affective strengths (ages 11–14) | Intervention | 31 | 1.84 | 0.65 | 0.01[d] | 0.12 | 2.05 | 0.95 | — | — | — |
| | Comparison | 14 | 1.71 | 0.58 | 0.01[d] | | | | | | |
| SR of child depressive symptoms (ages 13–14) | Intervention | 8 | — | — | — | — | — | — | — | — | — |
| | Comparison | 4 | — | — | — | | | | | | |
| CR of child internalizing behavior problems (ages 5–14) | Intervention | 84 | –3.15 | 0.36 | <0.01[d]* | –0.48 | 0.73 | 0.51 | –0.46 | 0.77 | 0.55 |
| | Comparison | 56 | –2.68 | 0.47 | <0.01[d]* | | | | | | |
| CR of child school functioning (ages 6–12) | Intervention | 67 | 1.82 | 0.56 | <0.01[d] | 0.80 | 1.70 | 0.64 | 0.58 | 1.68 | 0.73 |
| | Comparison | 46 | 1.02 | 0.71 | 0.16 | | | | | | |
| SR of child school functioning (ages 11–14) | Intervention | 31 | 1.77 | 0.92 | 0.06 | 2.08 | 2.87 | 0.47 | — | — | — |
| | Comparison | 13 | –0.31 | 0.87 | 0.73 | | | | | | |
| SR of child grades (ages 13–14) | Intervention | 7 | — | — | — | — | — | — | — | — | — |
| | Comparison | 4 | — | — | — | | | | | | |
| CR of family conflict (ages 5–14) | Intervention | 84 | –0.47 | 0.24 | 0.05 | –0.05 | 0.54 | 0.92 | –0.08 | 0.57 | 0.89 |
| | Comparison | 56 | –0.41 | 0.26 | 0.12 | | | | | | |
| SR of family conflict (ages 11–14) | Intervention | 30 | –0.20 | 0.31 | 0.52 | –0.66 | 1.02 | 0.52 | — | — | — |
| | Comparison | 14 | 0.46 | 0.49 | 0.36 | | | | | | |
| CR of positive involvement (ages 6–14) | Intervention | 75 | 2.40 | 0.87 | 0.01[d] | 0.02 | 1.83 | 0.99 | 0.51 | 1.89 | 0.79 |
| | Comparison | 52 | 2.38 | 0.76 | <0.01[d] | | | | | | |
| CR of negative or ineffective discipline (ages 6–14) | Intervention | 78 | –1.69 | 0.51 | <0.01[d]* | –0.73 | 1.09 | 0.50 | –1.18 | 1.15 | 0.31 |
| | Comparison | 54 | –0.96 | 0.54 | 0.08 | | | | | | |
| CR of deficient monitoring (ages 6–14) | Intervention | 78 | 0.03 | 0.40 | 0.95 | –0.05 | 0.63 | 0.94 | –0.04 | 0.66 | 0.95 |
| | Comparison | 52 | 0.08 | 0.24 | 0.75 | | | | | | |
| SR of mother involvement (ages 11–14) | Intervention | 58 | 2.91 | 1.18 | 0.02[d] | 1.37 | 2.64 | 0.60 | 1.11 | 2.40 | 0.64 |
| | Comparison | 35 | 1.54 | 1.29 | 0.24 | | | | | | |
| SR of father involvement (ages 11–14) | Intervention | 54 | 0.57 | 1.39 | 0.68 | –0.96 | 4.02 | 0.81 | –1.31 | 4.23 | 0.76 |
| | Comparison | 32 | 1.53 | 1.25 | 0.23 | | | | | | |

| Outcome | | N | Within-Family Mean Change[a] Estimate | SE | p-Value | Group-Level Comparison of Mean Changes: Unadjusted Model[b] Estimate | SE | p-Value | Adjusted Model[c] Estimate | SE | p-Value |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SR of positive parenting (ages 11–14) | Intervention | 58 | 0.76 | 0.66 | 0.26 | –0.24 | 1.52 | 0.87 | –0.62 | 1.41 | 0.66 |
| | Comparison | 36 | 1.00 | 0.86 | 0.25 | | | | | | |
| SR of poor monitoring and supervision (ages 11–14) | Intervention | 58 | –0.19 | 0.95 | 0.84 | 0.55 | 1.59 | 0.73 | 0.23 | 1.51 | 0.88 |
| | Comparison | 35 | –0.74 | 0.72 | 0.31 | | | | | | |
| SR of inconsistent discipline (ages 11–14) | Intervention | 57 | –0.74 | 0.51 | 0.16 | –0.38 | 1.10 | 0.73 | –0.70 | 1.15 | 0.54 |
| | Comparison | 34 | –0.35 | 0.79 | 0.66 | | | | | | |
| SR of corporal punishment (ages 11–14) | Intervention | 58 | –0.59 | 0.26 | 0.03[d] | 0.14 | 0.46 | 0.77 | 0.23 | 0.45 | 0.61 |
| | Comparison | 36 | –0.72 | 0.27 | 0.01[d] | | | | | | |
| CR of total child victimization experiences (ages 5–11) | Intervention | 62 | –1.11 | 0.27 | <0.01[d]* | –0.13 | 0.46 | 0.77 | –0.08 | 0.48 | 0.86 |
| | Comparison | 48 | –0.98 | 0.28 | <0.01[d]* | | | | | | |
| CR of child maltreatment (ages 5–11) | Intervention | 63 | –0.40 | 0.10 | <0.01[d]* | –0.13 | 0.16 | 0.42 | –0.11 | 0.17 | 0.53 |
| | Comparison | 49 | –0.27 | 0.11 | 0.02[d] | | | | | | |
| CR of child assault (ages 5–11) | Intervention | 63 | –0.40 | 0.10 | <0.01[d]* | –0.13 | 0.18 | 0.49 | –0.14 | 0.19 | 0.46 |
| | Comparison | 48 | –0.27 | 0.13 | 0.04[d] | | | | | | |
| CR of child sexual abuse (ages 5–11) | Intervention | 61 | –0.23 | 0.06 | <0.01[d]* | 0.02 | 0.11 | 0.85 | 0.06 | 0.11 | 0.61 |
| | Comparison | 48 | –0.25 | 0.08 | <0.01[d] | | | | | | |
| CR of child witnessing violence (ages 5–11) | Intervention | 62 | –0.15 | 0.10 | 0.15 | –0.04 | 0.16 | 0.78 | –0.05 | 0.16 | 0.77 |
| | Comparison | 49 | –0.10 | 0.07 | 0.17 | | | | | | |
| SR of total child victimization experiences (ages 11–14) | Intervention | 35 | –0.51 | 0.31 | 0.10 | 0.43 | 0.70 | 0.54 | — | — | — |
| | Comparison | 17 | –0.94 | 0.39 | 0.03[d] | | | | | | |
| SR of child maltreatment (ages 11–14) | Intervention | 35 | –0.06 | 0.10 | 0.57 | –0.17 | 0.21 | 0.41 | — | — | — |
| | Comparison | 17 | 0.12 | 0.15 | 0.43 | | | | | | |
| SR of child assault (ages 11–14) | Intervention | 35 | –0.14 | 0.10 | 0.17 | 0.15 | 0.28 | 0.58 | — | — | — |
| | Comparison | 17 | –0.29 | 0.24 | 0.24 | | | | | | |
| SR of child sexual abuse (ages 11–14) | Intervention | 35 | –0.11 | 0.07 | 0.10 | 0.06 | 0.14 | 0.65 | — | — | — |
| | Comparison | 17 | –0.18 | 0.10 | 0.08 | | | | | | |
| SR of child witnessing violence (ages 11–14) | Intervention | 35 | –0.03 | 0.13 | 0.82 | 0.32 | 0.25 | 0.19 | — | — | — |
| | Comparison | 17 | –0.35 | 0.19 | 0.08 | | | | | | |

| Outcome | | N | Within-Family Mean Change[a] Estimate | SE | p-Value | Group-Level Comparison of Mean Changes: Unadjusted Model[b] Estimate | SE | p-Value | Adjusted Model[c] Estimate | SE | p-Value |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CR of caregiver total number of traumatic experiences | Intervention | 84 | –0.17 | 0.08 | 0.03[d] | –0.06 | 0.12 | 0.62 | –0.07 | 0.13 | 0.58 |
| | Comparison | 56 | –0.11 | 0.08 | 0.20 | | | | | | |
| CR of caregiver experience of any non-DV trauma | Intervention | 84 | –0.06 | 0.04 | 0.10 | –0.06 | 0.06 | 0.34 | –0.07 | 0.07 | 0.32 |
| | Comparison | 56 | 0.00 | 0.05 | 1.00 | | | | | | |
| CR of caregiver experience of any DV | Intervention | 84 | –0.05 | 0.02 | 0.04[d] | 0.01 | 0.05 | 0.90 | 0.00 | 0.05 | 0.93 |
| | Comparison | 56 | –0.05 | 0.04 | 0.18 | | | | | | |
| CR of caregiver depression | Intervention | 82 | –1.84 | 0.66 | 0.01[d] | –0.59 | 1.35 | 0.66 | –0.19 | 1.40 | 0.89 |
| | Comparison | 56 | –1.25 | 0.72 | 0.09 | | | | | | |
| CR of caregiver PTSD | Intervention | 84 | –0.14 | 0.20 | 0.49 | 0.29 | 0.35 | 0.41 | 0.33 | 0.38 | 0.38 |
| | Comparison | 56 | –0.43 | 0.21 | 0.04[d] | | | | | | |

NOTE: * = the significant difference over time remains after adjustment for multiple comparisons. — = Cell is too small to show. Mean change estimates are not shown when the group size is fewer than ten, and comparisons are not shown when the group size is fewer than ten for either group. Adjusted model results are not shown when the group size is fewer than 20 for either group.
[a] Within-family mean changes between the baseline and six-month scores for each group separately.
[b] Group-level comparison of within-family mean changes from baseline to six months.
[c] Estimate of the difference between the two groups' within-family mean changes from baseline to six months, controlling for child age, gender, race and ethnicity, and violence exposure (baseline exposure plus exposure between baseline and six months).
[d] A significant paired *t*-test of differences over time ($p < 0.05$)

Table B.12 presents changes in outcomes from baseline to 12 months for each group, as well as group comparisons in the 12-month outcomes. These show a similar pattern of results except with much smaller numbers of families included in the analysis and therefore much less power to detect differences. Some significant within-group changes over time were observed, but no significant differences emerged in terms of differences between groups in the degree of improvement.

**Table B.12. Changes in Means for Outcome Variables Between Baseline and 12-Month Assessment and Group-Level Comparison of Mean Changes**

| Outcome | | N | Within-Family Mean Change[a] Estimate | SE | p-Value | Group-Level Comparison of Mean Changes: Unadjusted Model[b] Estimate | SE | p-Value | Adjusted Model[c] Estimate | SE | p-Value |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Primary | | | | | | | | | | | |
| CR of child PTSD symptoms (ages 5–10) | Intervention | 10 | –18.40 | 3.77 | <0.01[d] | — | — | — | — | — | — |
| | Comparison | 8 | — | — | — | | | | | | |

| Outcome | | N | Within-Family Mean Change[a] Estimate | SE | p-Value | Group-Level Comparison of Mean Changes: Unadjusted Model[b] Estimate | SE | p-Value | Adjusted Model[c] Estimate | SE | p-Value |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SR of child PTSD symptoms (ages 8–14) | Intervention | 12 | –8.08 | 4.42 | 0.09 | 4.28 | 5.32 | 0.43 | — | — | — |
| | Comparison | 11 | –12.36 | 2.97 | <0.01[d]* | | | | | | |
| SR of PTSD reexperiencing symptoms | Intervention | 12 | –2.58 | 1.62 | 0.14 | 1.51 | 2.12 | 0.48 | — | — | — |
| | Comparison | 11 | –4.09 | 1.07 | <0.01[d]* | | | | | | |
| SR of PTSD avoidance symptoms | Intervention | 12 | –2.00 | 2.00 | 0.34 | 3.18 | 2.20 | 0.15 | — | — | — |
| | Comparison | 11 | –5.18 | 1.43 | <0.01[d]* | | | | | | |
| SR of PTSD arousal symptoms | Intervention | 12 | –3.50 | 1.22 | 0.02[d] | –0.41 | 2.23 | 0.86 | — | — | — |
| | Comparison | 11 | –3.09 | 1.47 | 0.06 | | | | | | |
| Secondary | | | | | | | | | | | |
| CR of family involvement (ages 6–12) | Intervention | 16 | 2.88 | 1.21 | 0.03[d] | –1.54 | 2.68 | 0.57 | — | — | — |
| | Comparison | 12 | 4.42 | 1.58 | 0.02[d] | | | | | | |
| SR of family involvement (ages 11–14) | Intervention | 7 | — | — | — | — | — | — | — | — | — |
| | Comparison | 4 | — | — | — | | | | | | |
| Tertiary | | | | | | | | | | | |
| CR of attitudinal barriers to care | Intervention | 21 | –0.43 | 0.47 | 0.37 | –0.21 | 0.54 | 0.69 | | | |
| | Comparison | 14 | –0.21 | 0.19 | 0.27 | | | | | | |
| CR of caregiver total stressors | Intervention | 21 | –5.05 | 1.92 | 0.02[d] | –5.55 | 4.10 | 0.18 | | | |
| | Comparison | 14 | 0.50 | 2.46 | 0.84 | | | | | | |
| CR of caregiver resource problems | Intervention | 21 | –1.00 | 0.80 | 0.22 | –1.71 | 2.02 | 0.40 | | | |
| | Comparison | 14 | 0.71 | 1.14 | 0.54 | | | | | | |
| CR of caregiver personal problems | Intervention | 21 | –4.05 | 1.42 | 0.01[d] | –3.83 | 2.58 | 0.14 | | | |
| | Comparison | 14 | –0.21 | 1.62 | 0.90 | | | | | | |
| CR of child total behavior problems (ages 5–14) | Intervention | 21 | –8.00 | 1.27 | <0.01[d]* | –1.93 | 3.34 | 0.57 | — | — | — |
| | Comparison | 14 | –6.07 | 1.86 | 0.01[d] | | | | | | |
| CR of child externalizing behavior problems (ages 5–14) | Intervention | 21 | –4.33 | 0.92 | <0.01[d]* | –0.98 | 2.18 | 0.66 | — | — | — |
| | Comparison | 14 | –3.36 | 1.00 | 0.01[d] | | | | | | |
| SR of child delinquency (ages 11–14) | Intervention | 7 | — | — | — | — | — | — | — | — | — |
| | Comparison | 4 | — | — | — | | | | | | |
| SR of child drug use (ages 11–14) | Intervention | 7 | — | — | — | — | — | — | — | — | — |
| | Comparison | 4 | — | — | — | | | | | | |

| Outcome | | Within-Family Mean Change[a] | | | | Group-Level Comparison of Mean Changes | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Unadjusted Model[b] | | | Adjusted Model[c] | | |
| | | *N* | Estimate | SE | *p*-Value | Estimate | SE | *p*-Value | Estimate | SE | *p*-Value |
| SR of child gang involvement (ages 11–14) | Intervention | 7 | — | — | — | — | — | — | — | — | — |
| | Comparison | 4 | — | — | — | | | | | | |
| CR of child cooperation (ages 5–12) | Intervention | 17 | 1.47 | 0.55 | 0.02[d] | 0.80 | 1.76 | 0.65 | — | — | — |
| | Comparison | 12 | 0.67 | 1.10 | 0.56 | | | | | | |
| CR of child assertion (ages 5–12) | Intervention | 17 | 1.18 | 0.74 | 0.13 | –1.91 | 1.60 | 0.24 | — | — | — |
| | Comparison | 11 | 3.09 | 0.80 | <0.01[d] | | | | | | |
| CR of child self-control (ages 5–12) | Intervention | 17 | 2.47 | 0.97 | 0.02[d] | 1.14 | 2.12 | 0.59 | — | — | — |
| | Comparison | 12 | 1.33 | 1.44 | 0.37 | | | | | | |
| SR of child cooperation (ages 13–14) | Intervention | 2 | — | — | — | — | — | — | — | — | — |
| | Comparison | 0 | — | — | — | | | | | | |
| SR of child assertion (ages 13–14) | Intervention | 2 | — | — | — | — | — | — | — | — | — |
| | Comparison | 0 | — | — | — | | | | | | |
| SR of child self-control (ages 13–14) | Intervention | 2 | — | — | — | — | — | — | — | — | — |
| | Comparison | 0 | — | — | — | | | | | | |
| CR of child affective strengths (ages 6–12) | Intervention | 16 | 2.00 | 0.64 | 0.01[d] | –1.08 | 1.97 | 0.59 | — | — | — |
| | Comparison | 12 | 3.08 | 1.17 | 0.02[d] | | | | | | |
| SR of child affective strengths (ages 11–14) | Intervention | 7 | — | — | — | — | — | — | — | — | — |
| | Comparison | 4 | — | — | — | | | | | | |
| SR of child depressive symptoms (ages 13–14) | Intervention | 2 | — | — | — | — | — | — | — | — | — |
| | Comparison | 0 | — | — | — | | | | | | |
| CR of child internalizing behavior problems (ages 5–14) | Intervention | 21 | –3.67 | 0.57 | <0.01[d]* | –0.95 | 1.42 | 0.50 | — | — | — |
| | Comparison | 14 | –2.71 | 1.15 | 0.03[d] | | | | | | |
| CR of child school functioning (ages 6–12) | Intervention | 12 | 0.58 | 0.72 | 0.44 | — | — | — | — | — | — |
| | Comparison | 9 | | | | | | | | | |
| SR of child school functioning (ages 11–14) | Intervention | 7 | — | — | — | — | — | — | — | — | — |
| | Comparison | 4 | — | — | — | | | | | | |
| SR of child grades (ages 13–14) | Intervention | 2 | — | — | — | — | — | — | — | — | — |
| | Comparison | 0 | — | — | — | | | | | | |
| CR of family conflict (ages 5–14) | Intervention | 21 | –1.41 | 0.51 | 0.01[d] | –0.63 | 0.95 | 0.51 | — | — | — |
| | Comparison | 14 | –0.79 | 0.33 | 0.04[d] | | | | | | |

| Outcome | | N | Within-Family Mean Change[a] Estimate | SE | p-Value | Group-Level Comparison of Mean Changes: Unadjusted Model[b] Estimate | SE | p-Value | Adjusted Model[c] Estimate | SE | p-Value |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SR of family conflict (ages 11–14) | Intervention | 7 | — | — | — | — | — | — | — | — | — |
| | Comparison | 4 | — | — | — | | | | | | |
| CR of positive involvement (ages 6–14) | Intervention | 18 | 3.89 | 1.77 | 0.04[d] | 3.50 | 3.63 | 0.34 | — | — | — |
| | Comparison | 13 | 0.38 | 2.54 | 0.88 | | | | | | |
| CR of negative or ineffective discipline (ages 6–14) | Intervention | 20 | –1.05 | 1.12 | 0.36 | –2.84 | 1.80 | 0.12 | — | — | — |
| | Comparison | 14 | 1.79 | 0.81 | 0.05[d] | | | | | | |
| CR of deficient monitoring (ages 6–14) | Intervention | 20 | 0.30 | 0.42 | 0.49 | –1.08 | 1.69 | 0.52 | — | — | — |
| | Comparison | 13 | 1.38 | 0.82 | 0.12 | | | | | | |
| SR of mother involvement (ages 11–14) | Intervention | 13 | 2.69 | 2.93 | 0.38 | –1.13 | 5.92 | 0.85 | — | — | — |
| | Comparison | 11 | 3.82 | 2.17 | 0.11 | | | | | | |
| SR of father involvement (ages 11–14) | Intervention | 12 | 1.67 | 3.92 | 0.68 | –0.97 | 6.60 | 0.88 | — | — | — |
| | Comparison | 11 | 2.64 | 1.73 | 0.16 | | | | | | |
| SR of positive parenting (ages 11–14) | Intervention | 13 | 2.54 | 0.98 | 0.02[d] | 1.99 | 3.21 | 0.54 | — | — | — |
| | Comparison | 11 | 0.55 | 1.64 | 0.75 | | | | | | |
| SR of poor monitoring and supervision (ages 11–14) | Intervention | 13 | –4.08 | 2.31 | 0.10 | –4.62 | 4.21 | 0.28 | — | — | — |
| | Comparison | 11 | 0.55 | 1.26 | 0.67 | | | | | | |
| SR of inconsistent discipline (ages 11–14) | Intervention | 13 | 1.46 | 0.66 | 0.05[d] | 1.73 | 2.23 | 0.44 | — | — | — |
| | Comparison | 11 | –0.27 | 1.75 | 0.88 | | | | | | |
| SR of corporal punishment (ages 11–14) | Intervention | 13 | –0.77 | 0.68 | 0.28 | 0.23 | 1.13 | 0.84 | — | — | — |
| | Comparison | 11 | –1.00 | 0.90 | 0.29 | | | | | | |
| CR of total child victimization experiences (ages 5–11) | Intervention | 13 | –2.00 | 0.82 | 0.03[d] | –0.70 | 1.19 | 0.56 | — | — | — |
| | Comparison | 10 | –1.30 | 1.02 | 0.24 | | | | | | |
| CR of child maltreatment (ages 5–11) | Intervention | 13 | –0.31 | 0.24 | 0.22 | 0.49 | 0.47 | 0.30 | — | — | — |
| | Comparison | 10 | –0.80 | 0.42 | 0.09 | | | | | | |
| CR of child assault (ages 5–11) | Intervention | 13 | –0.92 | 0.29 | 0.01[d] | –0.92 | 0.38 | 0.02[d] | — | — | — |
| | Comparison | 10 | 0.00 | 0.26 | 1.00 | | | | | | |
| CR of child sexual abuse (ages 5–11) | Intervention | 13 | –0.31 | 0.13 | 0.04[d] | –0.01 | 0.20 | 0.97 | — | — | — |
| | Comparison | 10 | –0.30 | 0.15 | 0.08 | | | | | | |

| Outcome | | Within-Family Mean Change[a] | | | | Group-Level Comparison of Mean Changes | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Unadjusted Model[b] | | | Adjusted Model[c] | | |
| | | *N* | Estimate | SE | *p*-Value | Estimate | SE | *p*-Value | Estimate | SE | *p*-Value |
| CR of child witnessing violence (ages 5–11) | Intervention | 13 | –0.46 | 0.37 | 0.23 | –0.16 | 0.43 | 0.71 | — | — | — |
| | Comparison | 10 | –0.30 | 0.21 | 0.19 | | | | | | |
| SR of total child victimization experiences (ages 11–14) | Intervention | 9 | — | — | — | — | — | — | — | — | — |
| | Comparison | 5 | — | — | — | | | | | | |
| SR of child maltreatment (ages 11–14) | Intervention | 9 | — | — | — | — | — | — | — | — | — |
| | Comparison | 5 | — | — | — | | | | | | |
| SR of child assault (ages 11–14) | Intervention | 9 | — | — | — | — | — | — | — | — | — |
| | Comparison | 5 | — | — | — | — | — | — | — | — | — |
| SR of child sexual abuse (ages 11–14) | Intervention | 9 | — | — | — | — | — | — | — | — | — |
| | Comparison | 5 | — | — | — | — | — | — | — | — | — |
| SR of child witnessing violence (ages 11–14) | Intervention | 9 | — | — | — | — | — | — | — | — | — |
| | Comparison | 5 | — | — | — | | | | | | |
| CR of caregiver total number of traumatic experiences | Intervention | 21 | –0.24 | 0.12 | 0.06 | 0.12 | 0.27 | 0.66 | — | — | — |
| | Comparison | 14 | –0.36 | 0.25 | 0.17 | | | | | | |
| CR of caregiver experience of any non-DV trauma | Intervention | 21 | –0.14 | 0.08 | 0.08 | –0.07 | 0.11 | 0.50 | — | — | — |
| | Comparison | 14 | –0.07 | 0.07 | 0.34 | | | | | | |
| CR of caregiver experience of any DV | Intervention | 21 | –0.10 | 0.07 | 0.16 | 0.05 | 0.12 | 0.68 | — | — | — |
| | Comparison | 14 | –0.14 | 0.10 | 0.16 | | | | | | |
| CR of caregiver depression | Intervention | 21 | –2.87 | 1.54 | 0.08 | –2.94 | 2.20 | 0.19 | — | — | — |
| | Comparison | 14 | 0.07 | 1.49 | 0.96 | | | | | | |
| CR of caregiver PTSD | Intervention | 21 | –0.38 | 0.43 | 0.38 | –0.74 | 0.62 | 0.24 | — | — | — |
| | Comparison | 14 | 0.36 | 0.46 | 0.46 | | | | | | |

NOTE: — = Cell is too small to show. * = the significant difference over time remains after adjustment for multiple comparisons. Mean change estimates are not shown when the group size is fewer than ten, and comparisons are not shown when the group size is fewer than ten for either group. Adjusted model results are not shown when the group size is fewer than 20 for either group.

[a] Within-family mean changes between the baseline and 12-month scores for each group separately.

[b] Group-level comparison of within-family mean changes from baseline to 12 months.

[c] Estimate of the difference between the two groups' within-family mean change from baseline to 12 months, controlling for child age, gender, race and ethnicity, and violence exposure (baseline exposure plus the average of exposure at six and 12 months).

[d] A significant paired *t*-test of differences over time ($p < 0.05$). In cells containing *0.05*, we have rounded the value to 0.05, but it is still less than 0.05.

Finally, we examined the hypothesis that families in the intervention group might engage better in intervention and therefore attend more sessions of TF-CBT. The two groups differed in terms of the planned number of sessions, and indeed the number of sessions attended differed between the groups (14.6 in the intervention group and 11.6 in the comparison group; $p < 0.01$ when controlling for demographics). In our main analysis testing this hypothesis, however, we accounted for the extra sessions provided within the intervention arm. Subtracting out two sessions provided at the beginning of therapy from the total attended, there was no significant difference between the intervention and comparison groups in terms of TF-CBT attendance (see Table B.13). That is, they did not differ in the apparent dosage of TF-CBT sessions as predicted.

**Table B.13. Differences Between Groups in Intervention Retention in Trauma-Focused Cognitive–Behavioral Therapy**

| Variable | Group | Mean (SD) | Difference | Significance |
|---|---|---|---|---|
| Number of TF-CBT Sessions | TF-CBT + Let's Connect | 12.52 (6.6) | $t = 0.98$ | 0.33 |
| | TF-CBT | 11.64 (7.1) | | |
| | | **Percentage** | | |
| Dosage of TF-CBT | TF-CBT + Let's Connect | 81 | Chi-squared = 1.54 | 0.22 |
| | TF-CBT | 74 | | |

## Conclusions

We evaluated Aurora's enhancement to TF-CBT in an RCT comparing the Let's Connect intervention plus TF-CBT with a comparison group that received TF-CBT only. Highly trained, rigorously supervised clinicians delivered these intensive, clinic-based services. In the study, the Safe Start program recruited 235 families but retained only 140 of them at six months. The families in the study were mostly minorities (42 percent Hispanic, 12 percent black) and impoverished (44 percent had family incomes less than $30,000), with 75 percent of children self-reporting high levels of PTSD symptoms and more than one-half (52 percent) self-reporting depression in the moderate to severe range. Service uptake was very high, with 92 percent of the intervention group families receiving the combined intervention joint parent–child sessions and 90 percent receiving the TF-CBT sessions in the comparison condition. Almost all of the families retained in the six- and 12-month samples took part in the combined intervention joint parent–child sessions, and there was high uptake in the comparison TF-CBT group as well (95 percent at six months and 100 percent at 12 months). This level of engagement in services is laudable given the logistical barriers families sometimes face in seeking treatment in traditional mental health outpatient settings.

For Aurora's child outcomes, we expected a small between-group effect size because of the robust TF-CBT that both groups received, and we did not plan the project to be powered to

detect a small effect because of capacity issues and the costly services being provided to both groups. Given the final enrollment and retention, for child outcomes, there was power to detect only a medium effect of 0.49 at six months and a large effect of 1.00 at 12 months. Intent-to-treat analyses showed that mean scores in the intervention and comparison groups were generally in the expected direction and many were of large magnitude. For instance, on the primary outcome, children's PTSD symptoms, children were selected for high symptoms on this scale, and they showed average changes on the magnitude of 10 to 20 points on the scale in both groups, a large effect. Part of the reason for this large improvement might be related to the fact that children were selected for at least moderate levels of PTSD at enrollment, therefore leaving quite a bit of room for change. However, overall, we detected no statistically significant differences between groups over time because the comparison group experienced similar large improvements over time, with small between-group effects. Satisfaction with the intervention services was high.

For Aurora's intervention retention, the full sample in Aurora provided power to detect a small to medium effect of 0.37 on the measure of the number of therapy sessions attended. Results indicated that the two groups did not differ on the number of sessions, however, once we accounted for the planned longer duration of the combined intervention. That is, families appear to have received about the same dosage of the trauma-focused aspect of intervention in the two groups, and, in both groups, the majority of participants received what could be considered an adequate dose of TF-CBT (eight sessions for the intervention group and six sessions for the comparison group), with no significant difference between groups (81 percent in the intervention group and 74 percent in the comparison group).

The inability to detect differences across these two groups in uptake of TF-CBT could mean that there is truly no difference between the groups, but there might be important differences not explored in this study. That is, our measure of uptake of trauma-focused therapy is necessarily crude because we can only count sessions attended and did not have the resources to look into chart notes or other therapy documents to understand what happened in those sessions. Therefore, there might be important differences between the groups in terms of the content or tone of therapy received that we cannot see in a count of sessions.

In sum, despite improved child and family outcomes observed in this intervention study in both groups on many measures, we did not observe a differential effect of offering Let's Connect in terms of child and family outcomes. However, the study was not powered to detect the small differences that might be expected with this enhancement, so the study cannot determine whether there is such an effect. More research would be needed to determine whether the Let's Connect intervention can produce small improvements in child and family outcomes over and above TF-CBT alone. The hypothesis that Let's Connect would keep families in TF-CBT longer was not supported, despite power to detect a small to medium effect. Here, we did not observe enhanced intervention retention but might have missed subtler content-related differences between the two groups.

## Table B.14. Comparison of Means for Aurora Outcome Variables

| Outcome | | Baseline | | | | Six Months | | | | 12 Months | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | *N* | Mean | SD | Difference | *N* | Mean | SD | Difference | *N* | Mean | SD | Difference |
| Primary | | | | | | | | | | | | | |
| CR of child PTSD symptoms (ages 5–10) | Intervention | 69 | 57.36 | 14.21 | –2.53 | 51 | 45.39 | 15.28 | 1.80 | 10 | 39.00 | 8.04 | — |
| | Comparison | 71 | 59.89 | 13.34 | | 42 | 43.60 | 10.90 | | 9 | 43.67 | 12.23 | |
| SR of child PTSD symptoms (ages 8–14) | Intervention | 92 | 18.22 | 10.98 | –0.91 | 58 | 9.62 | 8.56 | –0.33 | 13 | 10.92 | 8.22 | 3.38 |
| | Comparison | 79 | 19.13 | 11.14 | | 37 | 9.95 | 7.74 | | 11 | 7.55 | 7.59 | |
| SR of PTSD reexperiencing symptoms | Intervention | 92 | 5.58 | 3.86 | –0.35 | 58 | 2.64 | 3.29 | 0.45 | 13 | 2.54 | 2.47 | 0.63 |
| | Comparison | 79 | 5.92 | 4.13 | | 37 | 2.19 | 2.27 | | 11 | 1.91 | 2.26 | |
| SR of PTSD avoidance symptoms | Intervention | 92 | 6.47 | 4.79 | –0.15 | 58 | 3.22 | 3.17 | –0.26 | 13 | 4.62 | 4.03 | 2.52 |
| | Comparison | 79 | 6.62 | 4.89 | | 37 | 3.49 | 3.29 | | 11 | 2.09 | 2.39 | |
| SR of PTSD arousal symptoms | Intervention | 92 | 6.17 | 3.55 | –0.41 | 58 | 3.76 | 3.40 | 0.51 | 13 | 3.77 | 2.55 | 0.22 |
| | Comparison | 79 | 6.58 | 4.00 | | 37 | 4.27 | 3.62 | | 11 | 3.55 | 3.93 | |
| Secondary | | | | | | | | | | | | | |
| CR of family involvement (ages 6–12) | Intervention | 101 | 21.27 | 5.14 | 0.81 | 70 | 24.27 | 4.75 | 0.67 | 17 | 23.88 | 3.59 | –0.62 |
| | Comparison | 96 | 20.46 | 5.82 | | 50 | 23.6 | 5.11 | | 12 | 24.50 | 5.47 | |
| SR of family involvement (ages 11–14) | Intervention | 50 | 20.76 | 4.64 | 0.00 | 31 | 22.48 | 4.51 | –0.37 | 9 | 22.00 | 4.74 | — |
| | Comparison | 34 | 20.76 | 5.14 | | 14 | 22.86 | 4.37 | | 5 | 22.60 | 4.72 | |
| Tertiary | | | | | | | | | | | | | |
| CR of attitudinal barriers to care | Intervention | 124 | 0.92 | 1.52 | –0.05 | 84 | 0.75 | 1.46 | –0.02 | 21 | 0.67 | 1.15 | 0.45 |
| | Comparison | 111 | 0.97 | 1.46 | | 56 | 0.77 | 1.19 | | 14 | 0.21 | 0.58 | |
| CR of caregiver total stressors | Intervention | 124 | 35.97 | 8.81 | –1.74 | 84 | 32.68 | 7.78 | –0.32 | 21 | 32.10 | 8.22 | –3.33 |
| | Comparison | 110 | 37.71 | 10.03 | | 56 | 33.00 | 9.36 | | 14 | 35.43 | 9.75 | |
| CR of caregiver resource problems | Intervention | 124 | 11.77 | 4.01 | –0.61 | 84 | 10.54 | 3.35 | –0.20 | 21 | 10.67 | 4.20 | –1.33 |
| | Comparison | 110 | 12.38 | 4.73 | | 56 | 10.73 | 3.70 | | 14 | 12.00 | 4.69 | |
| CR of caregiver personal problems | Intervention | 124 | 24.19 | 6.09 | –1.13 | 84 | 22.14 | 6.05 | –0.13 | 21 | 21.43 | 5.21 | –2.00 |
| | Comparison | 110 | 25.33 | 6.48 | | 56 | 22.27 | 6.34 | | 14 | 23.43 | 5.53 | |
| CR of child total behavior problems (ages 5–14) | Intervention | 123 | 18.13 | 6.89 | –0.69 | 84 | 10.63 | 8.03 | –2.05 | 21 | 10.29 | 7.23 | –1.50 |
| | Comparison | 111 | 18.82 | 5.86 | | 56 | 12.68 | 7.64 | | 14 | 11.79 | 8.23 | |
| CR of child externalizing behavior problems (ages 5–14) | Intervention | 123 | 11.43 | 4.66 | –0.14 | 84 | 7.05 | 5.36 | –1.35 | 21 | 7.05 | 4.82 | –0.74 |
| | Comparison | 111 | 11.57 | 4.21 | | 56 | 8.39 | 5.1 | | 14 | 7.79 | 4.96 | |
| SR of child delinquency (ages 11–14) | Intervention | 49 | 0.47 | 0.50 | 0.03 | 31 | 0.26 | 0.44 | –0.24 | 9 | 0.22 | 0.44 | — |
| | Comparison | 34 | 0.44 | 0.50 | | 14 | 0.50 | 0.52 | | 5 | 0.60 | 0.55 | |
| SR of child drug use (ages 11–14) | Intervention | 48 | 0.02 | 0.14 | –0.16[a] | 31 | 0 | 0 | 0.00 | 9 | 0.11 | 0.33 | — |
| | Comparison | 34 | 0.18 | 0.39 | | 14 | 0 | 0 | | 5 | 0 | 0 | |

| Outcome | | Baseline | | | | Six Months | | | | 12 Months | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | *N* | Mean | SD | Difference | *N* | Mean | SD | Difference | *N* | Mean | SD | Difference |
| SR of child gang involvement (ages 11–14) | Intervention | 48 | 0.06 | 0.24 | –0.03 | 31 | 0.03 | 0.18 | 0.03 | 9 | 0 | 0 | — |
| | Comparison | 34 | 0.09 | 0.29 | | 14 | 0 | 0 | | 5 | 0 | 0 | |
| CR of child cooperation (ages 5–12) | Intervention | 111 | 10.53 | 4.05 | 0.74 | 76 | 12.72 | 3.90 | 1.13 | 17 | 11.88 | 2.57 | 1.47 |
| | Comparison | 100 | 9.79 | 3.82 | | 52 | 11.60 | 4.37 | | 12 | 10.42 | 3.23 | |
| CR of child assertion (ages 5–12) | Intervention | 110 | 13.25 | 3.31 | 1.25[a] | 76 | 15.42 | 3.44 | 0.96 | 17 | 14.06 | 3.31 | –0.17 |
| | Comparison | 96 | 12.00 | 4.04 | | 52 | 14.46 | 4.02 | | 12 | 14.25 | 5.1 | |
| CR of child self-control (ages 5–12) | Intervention | 107 | 8.94 | 5.15 | 0.64 | 75 | 12.05 | 4.97 | 0.96 | 17 | 12.24 | 3.27 | 2.24 |
| | Comparison | 95 | 8.31 | 4.35 | | 52 | 11.10 | 4.97 | | 12 | 10.00 | 4.75 | |
| SR of child cooperation (ages 13–14) | Intervention | 12 | 11.75 | 5.36 | 1.15 | 8 | — | — | — | 4 | — | — | — |
| | Comparison | 10 | 10.6 | 5.83 | | 4 | — | — | | 2 | — | — | |
| SR of child assertion (ages 13–14) | Intervention | 12 | 9.58 | 3.32 | 0.22 | 8 | — | — | — | 4 | — | — | — |
| | Comparison | 11 | 9.36 | 5.07 | | 4 | — | — | | 2 | — | — | |
| SR of child self-control (ages 13–14) | Intervention | 12 | 6.92 | 4.1 | 0.64 | 8 | — | — | — | 4 | — | — | — |
| | Comparison | 11 | 6.27 | 5.92 | | 4 | — | — | | 2 | — | — | |
| CR of child affective strengths (ages 6–12) | Intervention | 102 | 15.3 | 3.57 | 0.75 | 70 | 17.43 | 3.04 | 0.81 | 17 | 17.53 | 3.08 | –0.22 |
| | Comparison | 96 | 14.55 | 4.17 | | 50 | 16.62 | 4.00 | | 12 | 17.75 | 3.67 | |
| SR of child affective strengths (ages 11–14) | Intervention | 50 | 14.06 | 4.01 | –0.06 | 31 | 16.06 | 3.65 | 0.56 | 9 | 13.89 | 4.68 | — |
| | Comparison | 34 | 14.12 | 5.43 | | 14 | 15.50 | 4.31 | | 5 | 15.4 | 2.07 | |
| SR of child depressive symptoms (ages 13–14) | Intervention | 13 | 82.08 | 4.77 | 0.44 | 8 | — | — | — | 4 | — | — | — |
| | Comparison | 11 | 81.64 | 7.05 | | 4 | — | — | | 2 | — | — | |
| CR of child internalizing behavior problems (ages 5–14) | Intervention | 123 | 6.70 | 2.99 | 0.22 | 84 | 3.58 | 3.05 | –0.70 | 21 | 3.24 | 2.84 | –0.76 |
| | Comparison | 111 | 7.25 | 2.52 | | 56 | 4.29 | 3.31 | | 14 | 4.00 | 3.88 | |
| CR of child school functioning (ages 6–12) | Intervention | 98 | 16.33 | 6.65 | –0.94 | 70 | 19.07 | 6.11 | 0.52 | 16 | 20.19 | 4.90 | 0.52 |
| | Comparison | 91 | 17.26 | 5.51 | | 49 | 18.55 | 6.32 | | 12 | 19.67 | 5.52 | |
| SR of child school functioning (ages 11–14) | Intervention | 50 | 17.86 | 5.08 | –0.45 | 31 | 19.94 | 4.51 | 1.65 | 9 | 21.22 | 4.15 | — |
| | Comparison | 32 | 18.31 | 5.25 | | 14 | 18.29 | 6.74 | | 5 | 16.60 | 5.03 | |
| SR of child grades (ages 13–14) | Intervention | 12 | 2.92 | 1.73 | — | 8 | — | — | — | 4 | — | — | — |
| | Comparison | 9 | 3.44 | 2.07 | | 4 | — | — | | 2 | — | — | |
| CR of family conflict (ages 5–14) | Intervention | 124 | 3.25 | 2.22 | 0.36 | 84 | 2.67 | 2.21 | 0.35 | 21 | 2.78 | 1.87 | 0.07 |
| | Comparison | 111 | 2.88 | 2.09 | | 56 | 2.32 | 2.23 | | 14 | 2.71 | 1.90 | |
| SR of family conflict (ages 11–14) | Intervention | 48 | 2.99 | 1.72 | –0.20 | 31 | 2.78 | 2.04 | –1.07 | 9 | 2.89 | 0.93 | — |
| | Comparison | 34 | 3.19 | 2.21 | | 14 | 3.86 | 2.6 | | 5 | 2.20 | 1.48 | |

| Outcome | | Baseline | | | | Six Months | | | | 12 Months | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | *N* | Mean | SD | Difference | *N* | Mean | SD | Difference | *N* | Mean | SD | Difference |
| CR of positive involvement (ages 6–14) | Intervention | 113 | 66.32 | 7.49 | –0.47 | 78 | 68.42 | 7.31 | –2.86[a] | 21 | 69.33 | 6.89 | 3.62 |
| | Comparison | 105 | 66.79 | 7.21 | | 53 | 71.28 | 7.41 | | 14 | 65.71 | 8.37 | |
| CR of negative or ineffective discipline (ages 6–14) | Intervention | 116 | 20.88 | 5.33 | 0.99 | 78 | 18.74 | 4.38 | 1.48[a] | 21 | 19.81 | 5.16 | 0.88 |
| | Comparison | 106 | 19.89 | 4.72 | | 54 | 17.26 | 4.02 | | 14 | 18.93 | 2.7 | |
| CR of deficient monitoring (ages 6–14) | Intervention | 116 | 10.1 | 2.86 | 0.47 | 78 | 10.14 | 3.41 | 1.05[a] | 21 | 9.90 | 2.91 | –1.02 |
| | Comparison | 104 | 9.63 | 2.46 | | 53 | 9.09 | 1.77 | | 14 | 10.93 | 3.83 | |
| SR of mother involvement (ages 8–14) | Intervention | 92 | 34.15 | 7.94 | 0.07 | 58 | 37.41 | 6.77 | 1.27 | 13 | 36.62 | 8.44 | 3.98 |
| | Comparison | 77 | 34.08 | 8.97 | | 36 | 36.14 | 8.71 | | 11 | 32.64 | 9.66 | |
| SR of father involvement (ages 8–14) | Intervention | 88 | 24.55 | 11.04 | 0.51 | 57 | 26.7 | 12.26 | –1.27 | 13 | 27.31 | 12.36 | 0.49 |
| | Comparison | 75 | 24.04 | 11.38 | | 34 | 27.97 | 13.82 | | 11 | 26.82 | 11.3 | |
| SR of positive parenting (ages 8–14) | Intervention | 92 | 23.04 | 5.14 | 0.45 | 58 | 24.28 | 4.39 | 0.30 | 13 | 23.77 | 4.85 | 1.68 |
| | Comparison | 79 | 22.59 | 4.71 | | 37 | 23.97 | 5.26 | | 11 | 22.09 | 5.75 | |
| SR of poor monitoring and supervision (ages 8–14) | Intervention | 92 | 16.58 | 6.02 | 1.32 | 58 | 15.52 | 5.31 | 1.46 | 13 | 15.46 | 6.78 | –2.08 |
| | Comparison | 79 | 15.25 | 5.3 | | 36 | 14.06 | 4.47 | | 11 | 17.55 | 8.19 | |
| SR of inconsistent discipline (ages 8–14) | Intervention | 92 | 12.82 | 3.8 | 0.42 | 57 | 11.93 | 3.64 | 0.01 | 13 | 13.46 | 4.43 | 1.46 |
| | Comparison | 78 | 12.4 | 3.77 | | 36 | 11.92 | 3.06 | | 11 | 12 | 4.8 | |
| SR of corporal punishment (ages 8–14) | Intervention | 92 | 4.53 | 1.93 | 0.06 | 58 | 3.78 | 1.21 | 0.26 | 13 | 4.08 | 1.8 | 0.35 |
| | Comparison | 79 | 4.47 | 2.1 | | 37 | 3.51 | 0.93 | | 11 | 3.73 | 1.79 | |
| CR of total child victimization experiences (ages 5–11) | Intervention | 91 | 1.69 | 1.84 | –0.05 | 64 | 0.59 | 0.94 | –0.04 | 14 | 0.64 | 1.08 | 0.14 |
| | Comparison | 89 | 1.74 | 2.15 | | 49 | 0.63 | 1.42 | | 10 | 0.5 | 0.85 | |
| CR of child maltreatment (ages 5–11) | Intervention | 93 | 0.46 | 0.79 | –0.01 | 64 | 0.09 | 0.29 | –0.03 | 14 | 0.07 | 0.27 | –0.03 |
| | Comparison | 91 | 0.47 | 0.91 | | 49 | 0.12 | 0.39 | | 10 | 0.1 | 0.32 | |
| CR of child assault (ages 5–11) | Intervention | 92 | 0.46 | 0.73 | 0.01 | 64 | 0.08 | 0.27 | –0.11 | 14 | 0.07 | 0.27 | –0.13 |
| | Comparison | 89 | 0.45 | 0.88 | | 49 | 0.18 | 0.49 | | 10 | 0.2 | 0.42 | |
| CR of child sexual abuse (ages 5–11) | Intervention | 90 | 0.22 | 0.44 | –0.04 | 64 | 0.03 | 0.18 | –0.01 | 14 | 0 | 0 | 0.00 |
| | Comparison | 89 | 0.26 | 0.53 | | 49 | 0.04 | 0.2 | | 10 | 0 | 0 | |
| CR of child witnessing violence (ages 5–11) | Intervention | 91 | 0.3 | 0.78 | 0.03 | 64 | 0.16 | 0.44 | 0.03 | 14 | 0.21 | 0.58 | 0.21 |
| | Comparison | 91 | 0.26 | 0.59 | | 49 | 0.12 | 0.53 | | 10 | 0 | 0 | |
| SR of total child victimization experiences (ages 10–14) | Intervention | 57 | 1.49 | 1.79 | 0.24 | 35 | 0.77 | 1.46 | 0.07 | 10 | 0.30 | 0.95 | — |
| | Comparison | 44 | 1.25 | 1.6 | | 17 | 0.71 | 1.4 | | 8 | 0.50 | 1.07 | |
| SR of child maltreatment (ages 10–14) | Intervention | 57 | 0.3 | 0.63 | 0.03 | 35 | 0.14 | 0.49 | –0.15 | 10 | 0.10 | 0.32 | — |
| | Comparison | 44 | 0.27 | 0.54 | | 17 | 0.29 | 0.59 | | 8 | 0.13 | 0.35 | |

| Outcome | | Baseline | | | | Six Months | | | | 12 Months | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | *N* | Mean | SD | Difference | *N* | Mean | SD | Difference | *N* | Mean | SD | Difference |
| SR of child assault (ages 10–14) | Intervention | 57 | 0.37 | 0.64 | 0.12 | 35 | 0.17 | 0.51 | –0.01 | 10 | 0 | 0 | — |
| | Comparison | 44 | 0.25 | 0.61 | | 17 | 0.18 | 0.53 | | 8 | 0.13 | 0.35 | |
| SR of child sexual abuse (ages 10–14) | Intervention | 57 | 0.14 | 0.35 | 0.03 | 35 | 0.03 | 0.17 | –0.03 | 10 | 0 | 0 | — |
| | Comparison | 44 | 0.11 | 0.32 | | 17 | 0.06 | 0.24 | | 8 | 0 | 0 | |
| SR of child witnessing violence (ages 10–14) | Intervention | 57 | 0.35 | 0.77 | 0.03 | 35 | 0.2 | 0.53 | 0.08 | 10 | 0.1 | 0.32 | — |
| | Comparison | 44 | 0.32 | 0.6 | | 17 | 0.12 | 0.49 | | 8 | 0.13 | 0.35 | |
| CR of caregiver total number of traumatic experiences | Intervention | 123 | 0.25 | 0.82 | –0.05 | 84 | 0.05 | 0.26 | –0.04 | 21 | 0 | 0 | 0.00 |
| | Comparison | 111 | 0.31 | 0.7 | | 56 | 0.09 | 0.35 | | 14 | 0 | 0 | |
| CR of caregiver experience of any non-DV trauma | Intervention | 123 | 0.11 | 0.31 | –0.05 | 84 | 0.04 | 0.19 | –0.04 | 21 | 0 | 0 | 0.00 |
| | Comparison | 111 | 0.15 | 0.36 | | 56 | 0.07 | 0.26 | | 14 | 0 | 0 | |
| CR of caregiver experience of any DV | Intervention | 123 | 0.06 | 0.23 | –0.02 | 84 | 0 | 0 | –0.02 | 21 | 0 | 0 | 0.00 |
| | Comparison | 111 | 0.08 | 0.27 | | 56 | 0.02 | 0.13 | | 14 | 0 | 0 | |
| CR of caregiver depression | Intervention | 121 | 5.56 | 5.38 | –0.62 | 84 | 4.04 | 5.17 | –0.36 | 21 | 3.67 | 4.89 | 0.10 |
| | Comparison | 110 | 6.18 | 5.7 | | 56 | 4.39 | 5.43 | | 14 | 3.57 | 4.03 | |
| CR of caregiver PTSD | Intervention | 124 | 1.22 | 1.45 | –0.30 | 84 | 1.08 | 1.42 | 0.10 | 21 | 1.05 | 1.36 | 0.19 |
| | Comparison | 111 | 1.52 | 1.49 | | 56 | 0.98 | 1.33 | | 14 | 0.86 | 1.29 | |

NOTE: — = Cell is too small to show. Data are not shown for outcomes when the cell size is fewer than five for either group. Comparisons were not tested when the group size was fewer than ten for either group.
[a] A significant difference between groups ($p < 0.05$). In cells containing *0.05*, we have rounded the value to 0.05, but it is still less than 0.05.