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**Trauma Skills Program in a Youth Detention Facility**

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by

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## Abstract

Childhood trauma exposure and trauma-related symptoms are significant risk factors for involvement with the juvenile justice system. Limited research has assessed the effectiveness of trauma interventions for juveniles in secure facilities. The current study is a program evaluation of a pilot program at a youth detention facility (YDF) in Sacramento, California that ran from 2017 to 2020. The Trauma Skills Program consisted of ten weekly group sessions, each 90-minutes in length, held in a classroom at the YDF. The Trauma Skills Program was designed to target trauma-related symptoms by providing psychoeducation, validation, and support, as well as improving coping skills for trauma-related responses, and increasing willingness to participate in trauma-related therapeutic services. Juveniles reported significantly more knowledge about trauma, perceived support at YDF, use of healthy coping skills, and willingness to engage in trauma therapy at post-program than pre-program. Trauma-related symptoms (i.e., negative alterations in cognitions and mood, re-experiencing, avoidance, and hyperarousal symptoms) did not decrease from pre-program to post-program. Qualitative data about the Trauma Skills Program was mostly positive and indicated a desire to use the skills learned outside of YDF. Potential explanations for the lack of change in trauma-related symptoms from pre- to post-program could be a result of juveniles' increased knowledge and awareness of trauma-related symptoms, inconsistent attendance, or lack of effectiveness of the implemented intervention.

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## Chapter 1: Introduction

The majority of children and adolescents experience potentially traumatic events (PTEs), which is a significant risk factor for a variety of negative psychological, societal, and physical outcomes (Copeland et al., 2018; McLaughlin et al., 2013). PTEs, or any direct, witnessed, or learned about violations of or threats to physical integrity (American Psychiatric Association, 2013) are not uncommon among developing youth; after combining direct experiences of violence, crime, or abuse with witnessing and indirect exposures, 67.5% of children in the general population had at least one such experience and 50% experienced more than one (McLaughlin et al., 2013). Children and adolescents who have experienced at least one PTE are more likely to exhibit increased rates of mental and physical health problems, display more risky and criminal behaviors, and have lower financial, educational, and social functioning than individuals who have experienced no traumatic events (Copeland et al., 2018). Recent research has begun to focus upon the cumulative impact of multiple PTEs and the resulting negative outcomes, such as higher rates of mental and physical health difficulties as well as lower financial, educational, and social functioning than individuals who have only experienced one PTE.

Children who have experienced traumatic events are at increased risk of involvement with child protective services (Miller et al., 2011) and the juvenile justice system (Kerig et al., 2010). During fiscal year 2018, there were 2,402,827 children nationwide for whom referrals for childhood abuse or neglect were submitted to Child Protective Services (CPS) with a total of 442,893 placed in out-of-home care (Children's Bureau, 2020). In 2019, 722,600 referrals for law violations were submitted to the court for juveniles, of which, 203,600 youth were adjudicated (Hockenberry & Puzanchera,

2021). The average cost of placing a youth in a secure confinement (detention or residential facility) is \$588 per day and \$214,620 per year (Justice Policy Institute, 2020). Herz and Dierkhising (2018) found all juveniles involved with CPS, including children and adolescents, have an increased risk of juvenile justice involvement. Of all youth from three counties who were involved with CPS or juvenile justice system, 48.3% to 70.8% had initial contact with CPS and concurrent or later involvement with the juvenile justice system.

Childhood trauma exposure is a significant risk factor for involvement with the juvenile justice system (Kerig et al., 2010). A study using the National Child Traumatic Stress Network Core Data Set (NCTCN-CDS) explored the association between trauma, trauma responses, and involvement in the juvenile justice system (Dierkhising et al., 2013). Of juvenile justice involved youth, 90% reported experiencing at least one type of PTE and 62% experiencing more than one type of PTE. On average, youth involved with juvenile justice reported experiencing 4.9 PTEs. Of those PTEs experienced, the three most frequently experienced PTEs were loss and bereavement, such as traumatic loss or separation from a caregiver (61.2%); an impaired caregiver (51.7%); and witnessing domestic violence (51.6%). More than half (62.1%) of the juvenile justice involved youth experienced a PTE before the age of 5. The rate of co-occurring traumas increased in frequency for each year of age from childhood to adolescence.

In addition to experiencing more PTEs, another risk factor of juvenile justice involvement is higher levels of Post-Traumatic Stress Disorder (PTSD; Kerig et al., 2010). When examining maladjustment after experiencing a PTE, PTSD is a commonly identified mental health disorder. Though the average lifetime prevalence of PTSD is

8.7% (American Psychiatric Association, 2013), 23.6% of juvenile justice involved youth were within the clinical range of PTSD (Dierkhising et al., 2013). In addition to having higher overall levels of PTSD, 71.8% of juvenile justice involved youth were in the clinical range for re-experiencing symptoms (e.g., nightmares or flashbacks); 53.2% were in the clinical range for avoidance symptoms (e.g., avoidance of internal and external reminders of the trauma); and 80.6% were in the clinical range for hyperarousal symptoms (e.g., irritability, outbursts of anger, or exaggerated startle response).

While PTSD is one of the most commonly identified maladaptive responses following a PTE, adolescents often experience deficits in a variety of biological, emotional, cognitive, and interpersonal processes (Kerig et al., 2010). Many behavioral health disorders are observed in greater frequency in juvenile justice involved youth than same age peers (Schubert & Mulvey, 2014). Dierkhising and colleagues (2013) found that in addition to symptoms of PTSD, 66.1% of the juvenile justice involved youth reported clinically significant levels of externalizing problems and 45.5% of the youth reported clinically significant levels of internalizing problems as assessed by the Child Behavior Checklist (completed by parents/caregivers). The most frequently reported (by parent/caregiver) externalizing behaviors included rule breaking (37%), aggressive behaviors (34.1%), attention difficulties (20.1%), and social difficulties (15.5%). The most frequently reported (by parent/caregiver) internalizing behaviors included withdrawn or depressed behaviors (22.3%), anxious/depressed behaviors (21%), and somatic complaints (20.1%). As a result of higher levels of trauma and co-occurring impairments for juvenile justice involved youth, researchers have begun to identify interventions to treat trauma responses for this vulnerable population.

Developers of trauma-informed interventions for youth in the juvenile justice system have identified three primary barriers to reducing behavioral and emotional impairments associated with trauma exposure (Ford & Hawke, 2012). The first barrier includes the limited availability of mental health professionals and necessity of a mental health professional to provide most trauma-focused interventions. The second barrier is that for youth in juvenile detention, administrators and staff believe that treating trauma will increase behavioral difficulties on units (e.g., youth acting out due to decreased frustration tolerance) or negatively constrain staff's ability to implement behavior management programs (e.g., teaching a trauma-informed response, such as a stress management strategy, instead of using a behavioral consequence, such as time-out). The third barrier is the lack of identification and awareness of symptoms, such as emotional numbing or rejection sensitivity, that occur as a result of traumatic experiences.

Sometimes this lack of awareness can be a result of staff, clinicians, or youth concern that labeling trauma or responses to trauma might create emotional or behavioral instability in the youth. Despite barriers to utilizing trauma-informed interventions in juvenile justice settings, the necessity of such interventions soon became clear to researchers.

Harris and Fallot (2001) introduced the concept of a trauma-informed approach for systems that provide treatment for mental health or substance abuse, even when the requested services were not specifically for trauma. Due to the high percentage of individuals who have experienced trauma; Harris and Fallot assert that providers should be educated about trauma, assess the people they support for trauma, and ensure that organizational policies and procedures are not harmful for individuals with a history of trauma. Due to the disproportionate number of juvenile justice involved youth who have

experienced trauma (Dierkhising et al., 2013), the necessity of a trauma-informed approach is well-known. Programing has been developed to provide trauma-informed care in secure juvenile justice settings (Baetz et al., 2021; Bloom & Sreedhar, 2008). Some such programs address organizational systems procedures (Sanctuary Model; Bloom & Sreedhar, 2008), whereas others utilize staff trainings to provide skills and psychoeducation for utilization on the units, such as THINK Trauma: A Training for Staff in Juvenile Justice Residential Settings (THINK Trauma; Baetz et al., 2021). While these interventions have resulted in direct positive outcomes for youth, such as decreased aggressive incidents (Elwyn et al., 2015), the interventions themselves are not conducted with youth directly.

An example of a trauma-informed approach is the Sanctuary Model, which is based upon trauma theory that changes the culture of an organization to become more supportive and therapeutic (Bloom & Sreedhar, 2008). With an organizational approach, there must be significant involvement from leadership for effective implementation. The Sanctuary Model consists of changing culture through emphasizing seven model commitments: nonviolence, emotional intelligence, social learning, shared governance, open communication, social responsibility, and growth and change. The Sanctuary Model helps systems manage stress by providing a cognitive framework from which to resolve stressors instead of becoming reactive. According to the Sanctuary Model, the four functional domains that all daily stressors can be categorized within are concerns for safety, managing emotions, losses, and concerns for the future.

Elwyn and colleagues (2015) examined the effectiveness of the Sanctuary Model by comparing performance-based standards (e.g., youth misconduct and physical

restraints) before and after implementation. Significantly fewer incidents of youth misconduct, physical restraints, isolation, room confinement, or segregation, peer on peer aggression, and youth on staff aggression were reported post implementation of the Sanctuary Model than pre-implementation. Program outcomes, post-implementation of the Sanctuary Model, indicated significant improvements compared to averages in the field, including all corrections facilities participating in nationwide performance-based standards. Significantly higher levels of perceived safety were reported among youth and staff post-implementation of the Sanctuary Model. While the Sanctuary Model has been associated with positive outcomes, it is a three-year process to implement with fidelity, and includes no individual-level intervention component.

Another system level intervention is THINK trauma, which is a four-module training curriculum provided to staff working with juvenile justice involved youth (National Child Traumatic Stress Network [NCTSN], 2020). Module 1 includes psychoeducation about the overlap between trauma and juvenile justice involvement; Module 2 provides psychoeducation about the impact of trauma on development; Module 3 provides knowledge of maladaptive coping skills, survival coping, often utilized by youth in response to trauma and strategies to build more adaptive skills; and Module 4 provides psychoeducation to staff about vicarious trauma and the importance of self-care. The THINK trauma training is approximately 16 hours long and is designed to be provided to all employees working within a juvenile residential or detention facility.

To test the efficacy of THINK trauma, a study conducted in two juvenile detention facilities implemented a two-component intervention (Baetz et al., 2021). The first component was the THINK trauma staff training. The second component was a

trauma skills group, Brief Skills Training in Affective and Interpersonal Regulation-Adolescent (Brief STAIR-A). The intervention was staggered so that the staff received the training in THINK trauma before implementing the Brief STAIR-A protocol with the youth. In addition, researchers staggered the implementation at the different facilities, with facility A receiving THINK trauma before facility B. A total of 331 youth completed the three module Brief STAIR-A program, including 190 of 1,197 eligible youth from facility A and 141 of 1,588 eligible youth from facility B. There was a statistically significant decrease in the number of violent incidents in facility A from pre-treatment to implementation of Brief STAIR-A. In facility B, there was a statistically significant decrease in the number of violent incidents before the staff received the THINK Trauma training and after staff received the THINK trauma training; however, a statistically significant increase in violent incidents was observed after the implementation of Brief-STAIR-A. Baetz and colleagues speculated that the difference in effectiveness between facilities may be a result of less youth participating in the skills training or due to the shorter length of stay at facility B. THINK Trauma is often implemented concurrently with individual or group therapies intended to treat maladaptive trauma responses. There has been no research examining the effectiveness of THINK Trauma implemented without concurrent group therapy. Trauma-informed interventions at the organization and staff level have been associated with positive outcomes, though results have primarily focused upon changes at the organizational rather than the individual level. While it is important to see changes at the organizational level, the impact of trauma on youth emphasizes the importance of trauma treatments at the individual level.

Due to the high level of trauma experienced by children and adolescents in the general population, many additional trauma treatments have been developed or adapted for children and adolescents (Rhoden et al., 2019; Zettler, 2021). Recently, many of the following trauma-focused interventions are being assessed for effectiveness with youth who have experienced trauma and have involvement in the juvenile justice system including: Trauma Affect Regulation: Guide for Education and Therapy (TARGET; Ford, 2015), Trauma and Grief Components Therapy for Adolescents (TGCTA; Olafson et al., 2018), Cognitive Processing Therapy (CPT; Ahrens & Rexford, 2002), Brief STAIR-A (Gudiño et al., 2014), Trauma-Adapted Multidimensional Treatment Foster Care (TA-MTFC; Smith et al., 2012), Trauma-Focused Cognitive Behavioral Therapy (TF-CBT; Snyder, 2018), Seeking Safety (Najavits et al., 2006), and Structured Sensory Intervention for Traumatized Children, Adolescents, and Parents – Adjudicated and At-Risk Youth (SITCAP-ART; Raider et al., 2008). These interventions have been associated with decreased PTSD and depressive symptoms (Ahrens & Rexford, 2002; Cohen, Mannarino, Janokowski, et al., 2016; Ford & Hawke, 2012), when compared to waitlist conditions (Ahrens & Rexford, 2002) or treatment as usual (Lynch et al., 2012). Some of the research examining the effectiveness of trauma treatments for juvenile justice involved youth have focused on youth in outpatient settings (Smith et al., 2012), residential settings (Raider et al., 2008), and secure juvenile justice/detention settings (Ahrens & Rexford, 2002; Ford & Hawke, 2012; Gudiño et al., 2014; Olafson et al., 2018; Snyder, 2018). Outpatient settings for high-risk or adjudicated youth typically involve youth placed with families (biological or foster/adoptive). Post-adjudication youth are sometimes placed in residential treatment facilities, including group homes,



which are not locked. Secure juvenile justice/detention facilities are locked facilities which include youth pre- and post-adjudication. The research on interventions conducted in secure juvenile justice/detention facilities, the setting examined within the current study, will be described below.

Of trauma-focused interventions, only TARGET, TGCTA, CPT, Brief STAIR-A, TF-CBT, and Seeking Safety have been implemented and researched in secure justice facilities (Ahrens & Rexford, 2002; Ford & Hawke, 2012; Gudiño et al., 2014; Najavits et al., 2006; Olafson et al., 2018; Snyder, 2018). Of these six interventions, only TARGET, TGCTA, CPT, Brief STAIR-A, and TF-CBT have been implemented in secure juvenile justice facilities (Ahrens & Rexford, 2002; Ford & Hawke, 2012; Gudiño et al., 2014; Olafson et al., 2018; Snyder, 2018). Of these five interventions, only TARGET, TGCTA, and CPT included outcome data obtained via specific measures. Baetz and colleagues' (2021) research primarily focused on the change in the number of violent incidents in the facility after implementation of THINK Trauma and Brief STAIR-A. Snyder's (2018) research primarily focused upon the process of implementing TFCBT in a secure juvenile justice facility. All trauma-focused interventions implemented at the individual level, within secure justice facilities, and with adolescents will be described below.

One trauma-focused intervention, TARGET, is a group and individual intervention initially designed to treat men and women with comorbid substance use disorder and PTSD (Ford & Russo, 2006). TARGET includes the following seven steps, summarized by the acronym FREEDOM, to manage and process trauma-related reactions to daily stressors: Focus, decrease anxiety symptoms and increase mental alertness;

Recognize, identify daily stressors; Emotions, identify emotional responses; Evaluate, identify automatic thoughts; Define, identify personal goals; Option, identify a choice that enables a youth to progress towards their identified goals; Make a contribution, identify how the option is consistent with one's core values. The goals of TARGET include learning strategies to increase self-regulation (F), managing and processing current trauma reminders (REE); and utilizing strength-based skill building (DOM). TARGET was adapted for use in juvenile justice programs (Ford & Hawke, 2012). To address concerns about limited availability of mental health professionals, TARGET was intended to be provided conjointly by a staff member with no mental health training and a staff member with mental health training. TARGET was also designed to be consistent with all constructive behavioral management systems. For example, learning skills and strategies to help youth manage their emotions, thoughts, and behaviors to increase their ability to comply with rules and expectations established by the detention facility.

The initial study where TARGET was adapted for use in juvenile justice programs was comprised of 10 group sessions and staff that utilized TARGET terminology and skills during all activities (including school) in the detention facility (Ford & Hawke, 2012). Due to the short length of stay for many youth placed in juvenile detention settings, the goal was for youth to attend the initial four sessions within the first two weeks of their placement. For youth who remained in detention for longer lengths of time, the goal was for them to attend as many of the 10 group sessions as possible. Group sessions included psychoeducation and self-regulation strategies such as slow down, orient, and self-check (SOS). Coaching is an important component of TARGET and includes peer and staff coaching. Staff can coach through modeling and showing youth

how and when to utilize the skills, and peers can coach through endorsing and modeling the use of the skills. Crisis prevention monitors were designed to coach and support other staff in utilizing TARGET skills to prevent or de-escalate conflict.

The effectiveness of TARGET in a secure juvenile detention facility was assessed in Connecticut from 2006 to 2008 (Ford & Hawke, 2012). Of 394 consecutive admissions to three juvenile detention facilities, 197 youth completed one or more group sessions of TARGET and had accessible outcome data within the juvenile justice court records. A comparison group of 197 juvenile justice involved youth was selected from a detention facility not implementing TARGET. Of the youth in the TARGET condition, 39 attended one session, 62 attended two sessions, 47 attended three sessions, and 49 attended four or more sessions. After controlling for the specific detention center, length of stay, youth's age, gender, ethnicity, type and severity of legal charges (felony, status violation, sex offense, drug offense, and violent offence), trauma history, and severity of behavioral health problems, for every session of TARGET attended within the first two weeks of an individual's admittance to the detention facility, there was a corresponding decrease in the number of disciplinary incidents and time spent in disciplinary seclusion during the first two weeks. However, no association was found between the number of TARGET sessions attended and recidivism in the following six months.

TGCTA is another trauma-focused intervention, initially developed for adolescent war survivors in Bosnia (Layne et al., 2001; Layne et al., 2008), that has been modified for school-based groups, including gang-involved and at-risk youth (Grassetti et al., 2014). TGCTA is designed to have two group leaders, one clinician and one staff member (Olafson et al., 2018). TGCTA is comprised of the following four main

components: 1) psychoeducation and practicing skills to improve emotional, cognitive, and behavioral regulation; 2) sharing and processing traumatic experiences; 3) sharing and processing grief/loss experiences; and 4) identifying future goals and plans as well as strategies to prevent negative outcomes. In addition to psychoeducation provided regarding trauma, a unique component of TGCTA, compared to other trauma interventions, is the psychoeducation regarding grief. Children with histories of trauma are at higher risk of early exposure to death of a loved one than same age peers. TGCTA consists of 23-25 sessions, when all four modules are implemented.

To test the effectiveness of TGCTA, six juvenile justice facilities in Ohio completed a group treatment, TGCTA, and a trauma-informed staff training, THINK Trauma (Olafson et al., 2018). All staff were required to attend trainings in all four modules of THINK Trauma. The staff training in THINK Trauma provided trauma-informed behavioral management strategies to support youth in applying skills and strategies learned in TGCTA while on the units. Out of 142 pre-treatment assessments completed, 30 youth completed all four modules and 39 completed module one of TGCTA. Youth who completed TGCTA reported significantly less depression, anger, posttraumatic stress, and dissociation from pre- to post-treatment. Youth who completed all four modules of TGCTA reported a significantly larger decrease in PTSD symptoms on all subscales than youth who completed only one module of TGCTA. There was also a significant decrease in incident reports (situations where a youth is out of control or a staff places hands on a youth for behavioral control) post-implementation of both THINK Trauma and TGCTA at two of the six facilities.

Another trauma-focused intervention implemented in a juvenile justice facility is CPT. CPT is a cognitive behavioral intervention initially designed for survivors of sexual assault (Resick & Schnicke, 1993), though some CPT manuals have been modified for use with PTSD more broadly (Resick et al., 2017). CPT can be completed as an individual or group intervention (Resick & Schnicke, 1993). CPT includes the following treatment components: psychoeducation about PTSD and emotions; practice identifying antecedents, beliefs, and consequences; trauma narration; identifying and challenging maladaptive thinking patterns; identifying themes impacted by trauma (safety, trust, power, esteem, and intimacy); reviewing narrative and identifying the goals for the future.

The effectiveness of CPT for adolescent males detained in a juvenile justice facility was assessed by Ahrens and Rexford (2002). Adolescents were randomly assigned to a treatment condition, CPT, or a waitlist condition, which included treatment as usual. CPT was implemented using the procedure outlined by Resick and Schnicke (1993) and was provided in eight, 60-minute group sessions. Of 38 total participants, 19 were assigned to the treatment condition and 19 to the waitlist condition. The treatment group reported significant decreases in intrusive, avoidance, and depressive symptoms from pre- to post-treatment, whereas no change was reported by participants in the waitlist condition.

A brief trauma-focused intervention, the Brief STAIR-A was modified from the STAIR-Adolescents (Cloitre et al., 2005) and provides three 90-minute modules (Gudiño et al., 2014). Module one focuses upon psychoeducation about trauma and emotions as well as practice with emotion identification; module 2 helps youth identify current skills

and then learn new skills to manage intense emotions; module 3 provides youth with skills to increase effective and clear communication, including identifying barriers to achieving clear communications. The format of one-module per session was designed for an inpatient hospital to increase youth's ability to join treatment at any time, instead of waiting for the next module to begin. The Brief STAIR-A was implemented conjointly with THINK Trauma and the efficacy was evaluated at a program level not an individual level. No individual results regarding violent incidents were reported for youth who completed Brief-STAIR-A versus youth who did not. In addition, no measures of maladaptive responses to trauma were collected, including anger or symptoms of PTSD and depression.

Another trauma-focused intervention, TF-CBT, is a 12 to 16 session trauma treatment for children 3 to 18 years old, targeted to decrease emotional, behavioral, cognitive, physical and/or interpersonal trauma responses (Cohen, Mannarino, & Deblinger, 2016). TF-CBT is designed to address the following areas of maladjustment that are often associated with trauma: cognitive, relationship, affective, family, traumatic behavior, and somatic (Cohen et al., 2012). TF-CBT consists of the following nine components of treatment which form the acronym PRACTICE: Psychoeducation and parenting skills, Relaxation strategies, Affective modulation skills, Cognitive coping skills, Trauma narration and processing, In-vivo mastery of trauma reminders, Conjoint youth-parent sessions, and Enhancing safety and future development. The 9 components are divided into the following three phases of treatment: stabilization and skill building (PRAC), trauma narration and processing (T), and consolidation and closure (ICE). The

emphasis on stabilization and skill building in the first phase of treatment makes this an ideal intervention to utilize in a detention facility.

An adaptation of TF-CBT was designed for youth in residential treatment settings (Cohen et al., 2012). The adaptation addresses two key differences in utilizing TF-CBT in a residential setting, 1) the goal of residential placement is decreasing severe externalizing behaviors and 2) direct care staff are managing children's behaviors instead of parents/caregivers. One randomized control study was conducted to assess the effectiveness of TF-CBT, with justice-involved youth with a trauma history who were court-mandated to a residential treatment facility, though it was not clarified whether the facilities were secure or in a group home format (Cohen, Mannarino, Janokowski, et al., 2016). The study included two components: 1) training therapists in TF-CBT and 2) training direct care staff, during an all-day training, to provide psychoeducation about trauma and support the use of TF-CBT coping skills in youth on the units. The training of direct care staff is particularly important due to events in residential treatment facilities that may serve as trauma reminders (e.g., harsh redirection and peer conflict). Of 339 eligible participants, 32 successfully completed treatment, individual TF-CBT. Of those youth that completed TF-CBT, clinically significant decreases in PTSD and depressive symptoms were observed from pre- to post-treatment. While residential settings are different from juvenile detention facilities (e.g., typically longer length of stay and only adjudicated youth are placed in residential treatment), the positive outcomes provided additional support for the utilization of TF-CBT in juvenile detention facilities.

TF-CBT was also assessed within a secure detention facility by Snyder (2018). Snyder described the implementation of TF-CBT in a juvenile detention facility for youth

between 13 and 20 years-of-age. Youth were detained as a result of felony offenses or probation violations. At the juvenile detention facility in the study, mental health services were offered to youth referred by detention center staff, social services, the medical team, or themselves. After referral, the youth completed a mental health screen after which they were provided the option to return for treatment, including TF-CBT. In the year and a half that data were collected, the average length of time youth spent in the juvenile detention facility was 20 days. During this period, the beginning of TF-CBT, skill building, was the most feasible to provide. In fact, 67% of 84 youth who agreed to participate in treatment completed the skill-building phase. The number of treatment sessions for the 13 youth who completed treatment ranged from 12 to 20 sessions. Of those thirteen youth who completed treatment, eight no longer met criteria for PTSD at the end of treatment. Snyder did not report the method he utilized to determine if a youth met criteria for PTSD.

A trauma-focused intervention that has been frequently implemented within secure detention facilities, though never researched specifically within secure juvenile justice facilities is Seeking Safety. Seeking Safety is a present-focused cognitive behavioral group intervention that was designed to treat PTSD and substance use disorder (Najavits, 2002). Seeking safety is comprised of 25 topics. Each topic teaches a healthy coping skill to address both PTSD and substance use disorder (SUD) symptoms, within the following three domains: cognitive, behavioral and interpersonal. Seeking safety is based upon the following five treatment goals: 1) safety is the main priority; 2) integration of treatment for PTSD and SUD; 3) emphasis on ideals (e.g., honesty and commitment); 4) relevant information was provided on four content areas (cognitive,



behavioral, interpersonal, and case management); and 5) attention to therapeutic process (e.g., building therapeutic alliance, providing opportunities for control, and modeling use of skills).

Seeking Safety was modified to be developmentally appropriate for adolescent females by Najavits and colleagues (2006). The following modifications were made to the original version of Seeking Safety: 1) providing information verbally if staff encountered resistance when providing handouts; 2) discussing how a friend might feel regarding a situation if deeper feelings were not evoked when discussing their own experiences; 3) discussing details from their own trauma experiences; 4) providing two extra sessions for material not included within the original manual, 5) brief updates with parents/caregivers, if allowed by the adolescent. Treatment was provided in an individual format across 25, 50-minute sessions. Parents were invited to join the sessions focused upon getting support from others in their recovery. To assess the effectiveness of Seeking Safety for adolescent females, 33 outpatient female adolescents were randomly assigned to Seeking Safety plus treatment as usual or treatment as usual. In the treatment condition, 18 participants were assigned and attended an average of 11.78 sessions per person. Compared to the treatment as usual group, the group that also received Seeking Safety reported less pre-occupation with substances, loss of control, polydrug use, anorexia, somatization, sexual distress, and sexual concerns from pre- to post-treatment.

The effectiveness of Seeking Safety was also assessed with incarcerated women who had a history of trauma and substance abuse (Lynch et al., 2012). The women, recruited over a three-year period from a state prison, were randomly assigned to treatment or waitlist condition (treatment as usual). The treatment condition consisted of

2 hour, twice weekly group sessions for 12 weeks. Of 162 participants, 114 completed pre- and post-interviews including 59 women receiving treatment and 55 assigned to the waitlist. Women in the treatment condition reported significantly less maladaptive coping, PTSD symptoms, and depressive symptoms from pre- to post-treatment than women in the waitlist condition. Women in the treatment condition also reported significantly more improvements in adaptive coping utilization and interpersonal functioning from pre- to post-treatment.

As awareness of trauma and maladaptive trauma responses as contributing factors for involvement within the juvenile justice system increased, so has research on interventions to decrease maladaptive trauma-related symptoms for justice involved juveniles (e.g., PTSD symptoms, youth misconduct, and violent incidents). However, despite the increase in research on trauma-informed (organizational and staff trainings) and trauma-focused interventions (treatments for the youth), there are still significant gaps in the literature. Some of those gaps include strategies to increase engagement in trauma-focused treatments in locked facilities, overcome treatment barriers in short-term detention centers (including attendance), identify treatment components most beneficial on a short-term and long-term basis, and determine the effectiveness of interventions to decrease both maladaptive trauma-related symptoms (e.g., symptoms of PTSD) and to increase youth's functioning (e.g., decreased youth misconduct and violent incidents).

### **The Current Study**

At a local YDF in Sacramento, California, a program was designed to decrease trauma-related symptoms in the juveniles placed there. The current study is a program evaluation completed to identify the effectiveness of the designed pilot program and any

potential areas for change. Previous research has identified the importance of using logic models when developing programs to ensure that the designed program can be implemented within the current limitations of the setting, the program is likely to achieve the intended outcome, and the program is outlined clearly enough to evaluate the program's success in achieving the intended goals (Savaya & Waysman, 2005).

The Plan-Do-Study-Act (PDSA) cycles logic model has been proposed as a quality improvement approach that should be utilized to assess the effectiveness of health care systems (Magnan, 2017; Magnan, 2021). The PDSA is composed of four components that form a cycle (Magnan, 2021). The first component is Plan, which includes data review, intervention design, and identification of the methods to evaluate the intervention. The second component, Do, includes implementation of interventions at both clinical and community levels. The third component is Study, which includes evaluation of the implemented interventions. The fourth component, Act, includes identification of possible changes to the interventions based upon the results of the study. The rationale for using the PDSA cycles during program evaluation stems from systems theory. Systems theory aims to explain the way changing one component within a system of interrelated and interdependent parts, can impact parts of a system or the whole system (Berwick, 1998). Occasionally, a small change to one of the components within a system can cause a large impact on the system as a whole. As a result, PDSA cycles are short-cycle tests which allow the impact on a complex system to be observed and evaluated frequently, with the intended goal of effectively changing the system in the intended manner. The current study is evaluating the effectiveness of the first cycle of PDSA logic plan.

The Plan component of PDSA cycles for the current pilot program included a review of the previously described literature, a proposed program to decrease trauma related symptoms in juveniles placed in YDF, and identification of objective variables to assess the effectiveness of the intervention. The designed program included the Trauma Skills Program at the clinical level and staff trainings at the community level (not presently evaluated for effectiveness; described in the methods section). The Trauma Skills Program consisted of 10 sessions, 90-minutes long, held weekly in a classroom at the YDF with 2-15 participants. The Trauma Skills Program was co-led by one psychologist and one staff (probation officer or probation assistant). The general structure of each group session was a check-in, mindfulness activity, orientation to content and activities, content, activities, and wrap up/check out. The objective variables identified to assess the effectiveness of the Trauma Skills Program include the following independent variables (completed measures at pre- and post-program) and the following dependent variables (self-reported trauma-related symptoms, aggressive behaviors on the unit, unit rule violations, healthy coping skills, perceived support from staff at YDF, and willingness to engage in trauma-related services).

The Do component of the PDSA cycles for the current pilot program included 11 consecutive implementations of the Trauma Skills Program on both male and female units at the YDF. A number of barriers to assessing the effectiveness of the Trauma Skills Program were identified, including difficulties with measure administration, youth beginning the Trauma Skills Program after pre-program measures have been completed, and drop-out due to youth leaving the detention facility before the Trauma Skills Program has been completed. The difficulties with measure administration include the lack of pre-

program measures completed for the first two groups on the female unit and the first three groups on the male unit as well as no post-program measures for one group on both the female and male units. As a result of new juveniles arriving at the YDF all the time, the groups were open to new participants until session four. Due to the majority of pre-program measures being completed between sessions one and three, not all youth completed pre-program measures. As a result of juveniles often leaving the YDF before the end of the Trauma Skills Program, the majority of juveniles do not complete post-program measures. The changes and modifications of the measure administrations occurred during the 11 consecutive cycles of the Trauma Skills Program

The Study component of the PDSA cycles is the purpose of the current research. The primary aim of the current study is to evaluate the effectiveness of the Trauma Skills Program in decreasing trauma-related symptoms, physical altercations on the units, and unit rule violations as well as increasing knowledge of trauma, comfort discussing trauma, perceived support from staff at YDF, healthy coping skills, and willingness to engage in future individual and group trauma treatment. This aim will be tested by comparing pre- and post-program measures of PTSD symptoms, physical altercations, unit rule violations, healthy coping skills, perceived support from staff at YDF, and willingness to engage in future trauma treatment. This aim will be assessed by comparing pre- and post-program measures at the group and individual level.

## **Chapter 2: Method**

The current study is a program evaluation of a pilot program at a youth detention facility (YDF) in Sacramento, California that ran from 2017 to 2020. The pilot program was designed to increase awareness of trauma and trauma-related symptoms, decrease

trauma-related symptoms, and increase willingness to engage in trauma-related services. The program consisted of two components: the Trauma Skills Program, being evaluated in this study for effectiveness, and a staff skills training, which is not being assessed directly by this study.

### **Trauma Skills Program**

The Trauma Skills Program was designed to target trauma-related symptoms by providing psychoeducation, validation, and support, as well as improving coping skills for trauma-related responses, and increase motivation and openness to participate in trauma-related therapeutic services. The Trauma Skills Program consisted of ten weekly group sessions, each 90-minutes in length, held in a classroom at the YDF. The Trauma Skills Program was co-led by one psychologist and one staff (probation officer or probation assistant). The Trauma Skills Program was an open group that juveniles could join until the fourth session, after which new juveniles could not join until the start of the next group. The Trauma Skills Program was implemented on both the male and female units of the YDF. A total of 22 Trauma Skills Program groups, 11 on the male trauma unit and 11 on the female trauma unit, were completed with youth from 2017 through 2020. During the course of the Trauma Skills Program curriculum, occasionally all juveniles within a group were released from YDF prior to the tenth session. As a result, not all sessions were administered for every group.

The general structure of each session within the curriculum was a check-in (i.e., orientation to group and review of the previous session's content), mindfulness activity (e.g., three things I can hear, smell, see, and feel), overview of planned content and

activities, content, activities, and wrap up/check out. The content and activities provided for each session of the Trauma Skills Program is included below:

- 1) Introduction to Trauma: group rules and assumptions, psychoeducation about trauma and fight, flight, and freeze responses, the WHAT and HOW of mindfulness strategies as well as the benefits of mindfulness specifically for people who have experienced trauma. Juveniles practiced emotional identification and mindfulness strategies in session. An optional activity for juveniles included creating their own individualized trauma-informed safety plan.
- 2) Types of trauma: psychoeducation about trauma, including sexual and physical abuse, domestic and community violence, as well as sexual exploitation.
- 3) Trauma-Related Reactions: psychoeducation about trauma related reactions, including posttraumatic stress disorder (PTSD) symptoms clusters (i.e., re-experiencing, avoidance, negative alterations in cognitions and mood, and hyperarousal) and case scenarios to practice identifying the symptoms associated with PTSD.
- 4) Distress tolerance skills: psychoeducation about identification of crises and distress tolerance strategies. Juveniles learned two specific distress tolerance strategies, distraction or ACCEPTS skills, and self-soothing strategies. They practiced identifying distress tolerance skills that work, do not work, as well as might work and would be willing to give it a try.
- 5) Identifying emotions: psychoeducation about strategies to change, accept, and let go of emotions. Juveniles practiced emotional identification and identifying where on their bodies they felt different emotions.

- 6) Identifying and changing thoughts: psychoeducation about thoughts, feelings, and actions; identifying negative thinking patterns; and strategies to discriminate between helpful versus unhelpful and accurate versus inaccurate thoughts. An optional group activity included practicing positive thinking by reframing negative thoughts.
  - 7) Anger management: psychoeducation about anger and the association between anger and trauma, including the “anger alarm” color system and anger management skill STOP. Juveniles worked in groups to create their own anger alarm systems including their specific thoughts, feelings, and behavioral sensations associated with anger.
  - 8) Healthy Relationships: psychoeducation about the power and control wheel, equality wheel, and the impact trauma can have on relationships. An optional group included working in groups to answer questions related to healthy teen relationships.
  - 9) Motivation and Values: psychoeducation about values and the importance of values. Juveniles practiced identifying their values, ranking them in terms of importance, and then identifying skills they have learned that match their values. An optional group activity included answering questions related to motivation for change.
  - 10) Reflection and Celebrations: review of concepts learned during the previous sessions as well as praise and celebration of each juvenile’s hard work in group.
- At the end of each session, wrap up/check out included getting general feedback and emotional identification during the session as well as assigning homework. Homework



assignments included practicing the skills learned in the session (e.g., identifying negative thoughts and possible alternatives) prior to the next session. Homework assignments provided at the end of each session were to be completed before the next session.

### **Staff Training**

Trainings were provided to staff (probation officers and probation assistants) who worked at the YDF. The staff who assisted in leading the Trauma Skills Program received nine total hours of training, including a general training on trauma-informed systems and a specific training on the Trauma Skills Program curriculum. The three-hour general training on trauma-informed systems was provided to all staff employed at YDF. The additional six-hour training on the Trauma Skills Program was completed by staff working on the trauma-informed YDF units.

The three-hour training included information adapted from module one of the THINK Trauma intervention, psychoeducation about commercial sexual exploitation of children (CSEC), and training in administration of the Child and Adolescent Trauma Screen-Youth-Report (CATS) measure. Staff received psychoeducation about trauma responses generally and the overlap between trauma and juvenile justice involvement (module one of THINK Trauma). The psychoeducation about CSEC included assessment of CSEC, risk factors of sexual exploitation, recruitment strategies, psychological coercion model, and consequences of CSEC. CSEC was emphasized during training due to funding requirements and legislation changes in California at the time the program was implemented. Training on the administration of the CATS measure included information about administration, interpretation, and feedback.

The additional six-hour training provided staff with the skills to co-facilitate the Trauma Skills Program and offer skills coaching on the units to prevent or de-escalate conflict that occurred as a result of trauma triggers. The six-hour training included review of the general training, information adapted from module three of the THINK Trauma training, information about trauma-informed approaches, and curriculum from the Trauma Skills Program. Psychoeducation about trauma and the overlap between trauma and juvenile justice involvement was reviewed from the general training. Information was also provided from module three from THINK Trauma, specifically regarding survival coping and healthier alternatives. The psychoeducation about trauma-informed approaches included the goals, principles, and assumptions of a trauma-informed approach as well as ways to support juveniles in creating, implementing, and using trauma-informed safety plans. Staff were also trained on the Trauma Skills Program curriculum and goals.

### **Participants**

Juvenile justice involved youth were eligible for participation in the Trauma Skills Program upon admission to the YDF in Sacramento, California. Juveniles were placed in the YDF both pre- and post-adjudication. As a result of California closing secure residential placements for youth post-adjudication, youth who were pre-adjudication (typically short-term) were placed with youth who were post-adjudication. Post-adjudication youth were typically either mandated by the courts to be in a secure setting or had probation violations. Upon arrival at the YDF, youth were administered the CATS-Self-Report to determine if they had a history of traumatic events and symptoms. CATS scores, as well as other factors, such as age, gender, crime committed, and unit

size, were considered to place youth in appropriate programming. The demographics reported in this study were from juveniles who were placed on the trauma-responsive units in the YDF where the Trauma Skills Program was implemented.

A total of 22 Trauma Skills Program groups were implemented from 2017 to 2020. Out of 665 juveniles, who participated in at least one session of the Trauma Skills Program, 248 juveniles (37.4%) completed at least one pre- or post-program measure (i.e., Youth Demographic Questionnaire, Trauma Skills Knowledge and Services Questionnaire, CATS, Feedback Form). Of those juveniles, 115 were male and 133 were female. Self-reported gender identity was not collected. Out of the 248 juveniles, 175 self-reported their ethnicity. Out of 175 juveniles, 60 identified as Black/African American, 29 identified as Hispanic/Latino/Spanish, 2 identified as American Indian or Alaskan Native, 4 identified as Native Hawaiian or Pacific Islander, 1 identified as Asian, 14 identified as White/Caucasian, 2 identified as other, and 63 identified as multiracial. A total of 173 juveniles reported their previous placement before their most recent arrest, of which 100 lived with a biological parent, 23 lived with a relative other than a biological parent, 2 lived in a relative foster home, 5 lived in a nonrelative foster home, 21 lived in a group home or placement, and 22 lived in another placement (e.g., on the run or homeless). At pre-program, 123 juveniles reported whether they were a ward of juvenile court: 43 indicated they were not a ward of juvenile court, 53 indicated they were a ward of juvenile court, and 27 indicated they were uncertain if they were a ward of juvenile court. At post-program, 46 juveniles reported whether they were a ward of juvenile court: 14 indicated they were not a ward of juvenile court, 23 reported they were a ward of juvenile court, and 9 indicated they were uncertain if they were a ward of juvenile court.

At pre-program, 124 juveniles reported whether they were a dependent of Child Protective Services: 84 indicated they were not a dependent, 28 reported they were a dependent, and 12 indicated they were uncertain if they were a dependent. At post-program, 47 juveniles reported whether they were a dependent of Child Protective Services: 32 indicated they were not a dependent, 9 reported they were a dependent, and 6 indicated they were uncertain if they were a dependent. 143 juveniles reported their special education eligibility status: 85 indicated they did not have an Individualized Educational Program (IEP), 48 reported they did have an IEP, and 20 indicated they were uncertain if they had an IEP. See Tables 1 and 2 in the Appendix for more details.

Out of the 248 juveniles who completed at least one pre- or post-program measure, 21 juveniles completed at least one pre- and post-program measure. Of those juveniles, 16 were male and 5 were female. Self-reported gender identity was not collected. Out of 18 juveniles, 7 identified as Black/African American, 3 identified as Hispanic/Latino/Spanish, 0 identified as American Indian or Alaskan Native, 1 identified as Native Hawaiian or Pacific Islander, 0 identified as Asian, 1 identified as White/Caucasian, 1 identified as other, and 5 identified as multiracial. 19 juveniles reported their previous placement before their most recent arrest, of which 13 lived with a biological parent, 2 lived with a relative other than a biological parent, 0 lived in a relative foster home, 0 lived in a nonrelative foster home, 2 lived in a group home or placement, and 2 lived in another placement (e.g., on the run or homeless). At pre-program, 15 juveniles reported whether they were a ward of juvenile court at the time: 9 indicated they were not a ward of juvenile court, 2 reported they were a ward of juvenile court, and 4 indicated they were uncertain if they were a ward of juvenile court. At post-

program, 17 juveniles reported whether they were a ward of juvenile court: 4 indicated they were not a ward of juvenile court, 11 reported they were a ward of juvenile court, and 2 indicated they were uncertain if they were a ward of juvenile court. At pre-program, 16 juveniles reported whether they were a dependent of Child Protective Services: 13 indicated they were not a dependent, 2 reported they were a dependent, and 1 stated they were uncertain if they were a dependent. At post-program, 17 juveniles reported whether they were a dependent of Child Protective Services: 13 indicated they were not a dependent, 1 stated they were a dependent, and 3 reported they were uncertain if they were a dependent. 17 Juveniles reported their special education eligibility status: 8 reported they did not have an Individualized Educational Program (IEP), 7 indicated they did have an IEP, and 2 were uncertain if they had an IEP.

### **Measures**

Assessments were administered at pre-program (sessions 1 through 3 of the Trauma Skills Program) and post-program (sessions 9 and 10 of the Trauma Skills Program). If juveniles were released from YDF prior to the tenth session, they did not complete the post-program measures. Youth completed the following three questionnaires at pre- and post-program: Youth Demographic Questionnaire, Trauma Skills Knowledge and Services Questionnaire, and CATS. The Youth Demographic Questionnaire and Trauma Skills Knowledge and Services Questionnaire were created specifically to evaluate this program. The CATS is a measure used internationally to assess for trauma exposure and trauma-related symptoms (Sachser et al., 2017).

The following demographic variables were assessed by the Youth Demographic Questionnaire: ethnicity/race, most recent placement before the youth detention facility,

status as a ward of the state or dependent of child protective services, and support from an Individualized Educational Plan in school. The sociodemographic variables were selected due to research indicating the association of juvenile justice involvement with trauma, PTSD, and engagement in physical altercations. Information was also gathered regarding youth's assessment of their functioning in YDF within the past week and overall including number of program restrictions and physical altercations within the past week, overall functioning on the unit, and current program level. The following information was collected using the Trauma Skills Knowledge and Services Questionnaire: knowledge of and willingness to discuss trauma symptoms, comfort discussing traumatic events, level of perceived support at YDF, number of healthy coping skills, and willingness to engage in group or individual trauma-related services.

The Child and Adolescent Trauma Screen (CATS) – Self-Report (Sachser et al., 2017) is a self-report measure used to assess the types of potentially traumatic events experienced by children and adolescents, 7 to 17 years-of-age, as well as the frequency and intensity of PTSD symptoms as specified in the Diagnostic and Statistical Manual of Mental Disorders (5<sup>th</sup> ed.; DSM-5). The CATS assesses 15 different types of traumatic events and the event currently having the biggest impact on the individual. The CATS also assesses symptoms of re-experiencing (e.g., intrusions or flashbacks), avoidance, negative alterations in cognitions and mood, and hyperarousal. The measure employs the following 4-point Likert scale to assess the frequency a symptom is experienced: *0 = never, 1 = once in a while, 2 = half the time, and 3 = almost always*. Within United States samples, the internal consistency for the CATS-Self-Report was a  $\alpha = 0.92$  and for the four factors of PTSD, the internal consistency ranged from 0.66 to 0.86.

The Feedback Form was only administered at post-program. The Feedback Form was designed specifically to collect qualitative feedback regarding the Trauma Skills Program. Specifically, juveniles were asked to identify which sessions they found the most beneficial, provide information regarding their likes and dislikes about the program, overall feedback about the group, and information/skills they could use outside of YDF.

## **Procedure**

### **Consent**

The Institutional Review Board (IRB) determined that the current study met criteria for program evaluation meaning that specific informed assent from juveniles and specific informed consent from caregivers were not required. While specific informed consent was not required, juveniles had the opportunity to participate or not participate in each session of the Trauma Skills Program. Juveniles were encouraged to participate in programing; however, alternative opportunities were provided for juveniles who did not want to participate in the Trauma Skills Program. Juveniles were able to earn points for the facility's token economy if they participated and alternative opportunities also offered opportunities to earn points for those who did not wish to participate in the program.

For participating in the Trauma Skills Program, juveniles were able to earn 15 points total per group within the unit's token economy system, which provided opportunities to earn rewards when a certain number of points had been earned. Juveniles received no consequences for not participating in the Trauma Skills Program and could earn points by engaging in alternative activities during the Trauma Skills Program. Some reasons that juveniles may not participate in the Trauma Skills Program include engaging in alternative programing, being sick, attending a visit, or severe behavioral outbursts.

## **Incentives**

Juveniles were highly encouraged, though not required, to attend the Trauma Skills Program. Juveniles were able to earn 15 points total per group that could be banked with the unit's token economy system. Juveniles could earn five points for attending group, five points for participating, and five points for following the group rules (e.g., raising their hands, using respectful words, and following directions). Juveniles were able to earn a piece of candy each week for completion of homework assignments. For juveniles who completed at least five sessions of the Trauma Skills Program, certificates were provided. During the tenth session, juveniles were able to order food from a local restaurant.

## **Data Analysis**

**Sample size.** A power analysis was conducted using G\*Power 3.1.3 software (Faul et al., 1992). Results indicated that 44 participants per condition would result in a 95% chance of detecting a medium effect size ( $d = .25$ ) at the .05 significance level when conducting a 2 X 2 ANOVA. Therefore, a total of 176 participants were needed. While a total of 248 participants completed at least one pre- or post-program measure, not all measures were completed by 44 juveniles in each condition.

**Data screening.** The SPSS software (version 26.0) for Macintosh (IBM, 2019) was used for all analyses. Data cleaning procedures recommended by Tabachnick and Fidell (2012) was used to ensure the accuracy, completeness, and normality of all study variables. Assumptions of normality of data, homogeneity of variance, and independent observations were assessed and confirmed for all analyses completed below. ANOVAs were not completed to assess changes in program restrictions, physical altercations, and



program levels from pre- to post-program due to significant violations of the assumptions, including normality and homogeneity. The majority of youth self-reported no program restrictions and physical altercations at pre- and post-program.

Pearson product-moment correlations were completed across gender, age, ethnicity, placement prior to detention, custody status of CPS, status as ward of juvenile court, IEP, program level, program restriction, physical altercation, overall behavior, number of types of traumatic experiences, trauma-related symptoms (i.e., total score, re-experiencing, avoidance, negative cognitions, and hyperarousal), knowledge of trauma, comfort discussing trauma, support in juvenile hall, healthy coping skills, and interest in group or individual therapy for trauma at pre- and post-program. See Tables 3, 4, 5, and 6 in the Appendix for more details.

Analyses were conducted to assess the effectiveness of the Trauma Skills Program; juveniles who completed at least one measure at either pre- or post-program were included in these analyses. Multiple 2 X 2 ANOVAs were conducted to test the effect of the Trauma Skills Program on symptoms of PTSD, physical altercations, unit rule violations, increasing knowledge of trauma, comfort discussing trauma, perceived support from staff at YDF, healthy coping skills, and willingness to engage in future individual and group trauma treatment for male and female juveniles at pre- and post-program. The decision to run multiple 2 X 2 ANOVAs instead of two MANOVAs was due to concerns regarding the loss of power when dependent variables have a moderate to high positive correlation (Tabachnick & Fidell, 2012).

Analyses were also conducted to assess changes in symptoms as a result of the Trauma Skills Program; juveniles who completed the same measure at both pre- or post-

program were included in these analyses. Multiple paired-sample t-tests were conducted to examine the effect of the Trauma Skills Program on symptoms of PTSD, physical altercations, unit rule violations, knowledge of trauma, comfort discussing trauma, perceived support from staff at YDF, healthy coping skills, and willingness to engage in future trauma treatment for juveniles.

### **Chapter 3: Results**

#### **Primary Aim: Part 1**

Multiple 2 X 2 ANOVAs were conducted to test the effect of the Trauma Skills Program for males and females regarding symptoms of PTSD (i.e., total symptoms, negative alterations in cognitions and mood, hyperarousal, re-experiencing, and avoidance symptoms), physical altercations, unit rule violations, knowledge of trauma, comfort discussing trauma, healthy coping skills, perceived support from staff at YDF, and willingness to engage in future trauma treatment at pre-program and post-program. The 2 X 2 ANOVAs to assess changes in program restrictions, physical altercations, and program levels from pre- to post-program were not completed due to significant violations of the assumptions, including normality and homogeneity.

#### ***Trauma and Trauma-Related Symptoms***

A 2 X 2 ANOVA was conducted to assess the impact of gender and the Trauma Skills Program (pre- versus post-program) on total trauma-related symptoms. The main effect of the Trauma Skills Program was non-significant,  $F(1, 155) = 0.15, p = .70$ . The main effect of gender was significant,  $F(1, 155) = 16.98, p < .01$ , indicating that females reported significantly higher levels of total trauma-related symptoms ( $M = 29.06, SD = 14.63$ ), than males ( $M = 19.59, SD = 14.21$ ). The interaction effect of gender and the

Trauma Skills Program was non-significant,  $F(1, 155) = 0.22, p = .64$ . See Figure 1 in the Appendix for more details.

A 2 X 2 ANOVA was conducted to assess the impact of gender and the Trauma Skills Program (pre- versus post-program) on negative alterations in cognition and mood symptoms. The main effect of the Trauma Skills Program was non-significant,  $F(1, 155) = 1.25, p = .27$ . The main effect of gender was significant,  $F(1, 155) = 12.06, p < .01$ , indicating that females reported significantly higher levels of avoidance symptoms ( $M = 8.21, SD = 5.13$ ), than males ( $M = 5.56, SD = 4.86$ ). The interaction effect of gender and the Trauma Skills Program was non-significant,  $F(1, 155) = 0.20, p = .66$ . See Figure 2 in the Appendix for more details.

A 2 X 2 ANOVA was conducted to assess the impact of gender and the Trauma Skills Program (pre- versus post-program) on hyperarousal symptoms. The main effect of the Trauma Skills Program was non-significant,  $F(1, 155) = 0.12, p = .73$  and gender was non-significant,  $F(1, 155) = 3.81, p = .05$ . The interaction effect of gender and the Trauma Skills Program was non-significant,  $F(1, 155) = 0.14, p = .71$ . See Figure 3 in the Appendix for more details.

A 2 X 2 ANOVA was conducted to assess the impact of gender and the Trauma Skills Program (pre- versus post-program) on re-experiencing symptoms. The main effect of the Trauma Skills Program was non-significant,  $F(1, 155) = 0.44, p = .51$ . The main effect of gender was significant,  $F(1, 155) = 23.12, p < .01$ , indicating that females reported significantly higher levels of re-experiencing symptoms ( $M = 7.80, SD = 4.17$ ), than males ( $M = 4.67, SD = 4.14$ ). The interaction effect of gender and the Trauma Skills

Program was non-significant,  $F(1, 155) = 0.61, p = .44$ . See Figure 4 in the Appendix for more details.

A 2 X 2 ANOVA was conducted to assess the impact of gender and the Trauma Skills Program (pre- versus post-program) on avoidance symptoms. The main effect of the Trauma Skills Program was non-significant,  $F(1, 155) = 0.19, p = .66$ . The main effect of gender was significant,  $F(1, 155) = 26.61, p < .01$ , indicating that females reported significantly higher levels of avoidance symptoms ( $M = 4.62, SD = 2.45$ ), than males ( $M = 2.55, SD = 2.35$ ). The interaction effect of gender and the Trauma Skills Program was non-significant,  $F(1, 155) = 0.07, p = .79$ . See Figure 5 in the Appendix for more details.

### ***Knowledge and Willingness to Engage in Treatment***

A 2 X 2 ANOVA was conducted to assess the impact of gender and the Trauma Skills Program (pre- versus post-program) on overall self-report of behavior on the unit. The main effects of the Trauma Skills Program,  $F(1, 164) = 0.02, p = .97$ , gender,  $F(1, 164) = 1.56, p = .21$ , and the interaction effect of gender and the Trauma Skills Program,  $F(1, 164) = 0.46, p = .50$  were all non-significant. See Figure 6 in the Appendix for more details.

A 2 X 2 ANOVA was conducted to assess the impact of gender and the Trauma Skills Program (pre- versus post-program) on self-reported knowledge about trauma and trauma symptoms. The main effect of the Trauma Skills Program was significant,  $F(1, 209) = 16.06, p < .01$ , indicating that higher levels of knowledge were reported post-program ( $M = 2.92, SD = 0.81$ ), than pre-program ( $M = 2.35, SD = 1.13$ ). The main effect of gender was significant,  $F(1, 209) = 14.19, p < .01$ , indicating that females reported

significantly higher levels of knowledge about trauma and trauma symptoms ( $M = 2.83$ ,  $SD = 1.02$ ), than males ( $M = 2.22$ ,  $SD = 1.00$ ). The interaction effect of gender and the Trauma Skills Program was non-significant,  $F(1, 209) = 1.70$ ,  $p = .19$ . See Figure 7 in the Appendix for more details.

A 2 X 2 ANOVA was conducted to assess the impact of gender and the Trauma Skills Program (pre- versus post-program) on the level of reported comfort discussing scary and traumatic events. The main effect of the Trauma Skills Program was non-significant,  $F(1, 205) = 0.15$ ,  $p = .70$ . The main effect of gender was significant,  $F(1, 205) = 5.01$ ,  $p = .03$ , indicating that females reported significantly higher levels of comfort discussing scary and traumatic events ( $M = 8.21$ ,  $SD = 5.13$ ), than males ( $M = 5.56$ ,  $SD = 4.86$ ). The interaction effect of gender and the Trauma Skills Program was non-significant,  $F(1, 205) = 0.23$ ,  $p = .64$ . See Figure 8 in the Appendix for more details.

A 2 X 2 ANOVA was conducted to assess the impact of gender and the Trauma Skills Program (pre- versus post-program) on the level of perceived support regarding trauma symptoms (e.g., talking to staff and support with coping skill use). The main effect of the Trauma Skills Program was significant,  $F(1, 202) = 7.63$ ,  $p < .01$ , indicating that higher levels of perceived support were reported post-program ( $M = 2.84$ ,  $SD = 0.95$ ), than pre-program ( $M = 2.45$ ,  $SD = 1.02$ ). The main effect of gender was significant,  $F(1, 202) = 13.92$ ,  $p < .01$ , indicating that females reported significantly higher levels of perceived support regarding trauma symptoms ( $M = 2.84$ ,  $SD = 0.93$ ), than males ( $M = 2.29$ ,  $SD = 1.01$ ). The interaction effect of gender and the Trauma Skills Program was non-significant,  $F(1, 202) = 0.43$ ,  $p = .52$ . See Figure 9 in the Appendix for more details.

A 2 X 2 ANOVA was conducted to assess the impact of gender and the Trauma Skills Program (pre- versus post-program) on the number of healthy coping skills for trauma symptoms. The main effect of the Trauma Skills Program was significant,  $F(1, 208) = 21.45, p < .01$ , indicating that higher levels of healthy coping skills were reported post-program ( $M = 2.67, SD = 0.84$ ), than pre-program ( $M = 2.11, SD = 0.87$ ). The main effect of gender was non-significant,  $F(1, 208) = 3.06, p = .08$ , and the interaction effect of gender and the Trauma Skills Program was non-significant,  $F(1, 208) = 1.94, p = .17$ . See Figure 10 in the Appendix for more details.

A 2 X 2 ANOVA was conducted to assess the impact of gender and the Trauma Skills Program (pre- versus post-program) on willingness to engage in therapy for trauma and trauma-related symptoms. The main effect of the Trauma Skills Program was significant,  $F(1, 241) = 8.71, p < .01$ , indicating that higher levels of willingness to engage in therapy for trauma and trauma-related symptoms were reported post-program ( $M = 5.73, SD = 1.74$ ), than pre-program ( $M = 5.07, SD = 1.87$ ). The main effect of gender was significant,  $F(1, 241) = 5.29, p = .02$ , indicating that females reported significantly higher levels of willingness to engage in therapy for trauma and trauma-related symptoms ( $M = 5.61, SD = 1.80$ ), than males ( $M = 5.11, SD = 1.86$ ). The interaction effect of gender and the Trauma Skills Program was non-significant,  $F(1, 241) = 0.10, p = .75$ . See Figure 11 in the Appendix for more details.

### ***Qualitative Data***

Qualitative feedback about the Trauma Skills Program was provided by 144 juveniles. When asked to identify the three most beneficial sessions within the Trauma Skills Program, the following three sessions were identified as most beneficial: session 8,

healthy relationships (55 juveniles); session 7, anger management (52 juveniles); and session 5, identifying emotions (40 juveniles). Juveniles also provided information about the skills they could use when they get out of YDF. For example, juveniles stated “How to control my anger better and not be so hard on myself,” and “I think I can be more open.” Some juveniles indicated specific strategies they would use such as “pink elephant” and “changing thoughts” as well as more general strategies such as “realizing how to identify unhealthy relationships.”

Juveniles provided their likes, dislikes, and overall feedback regarding the Trauma Skills Program. The majority of youth’s feedback was positive. For example, juveniles stated “I just like to learn about trauma and what it can do to people and how to deal with it,” “It helped me identify trauma I didn’t know I had,” and “I really like group, I try to be extra good on Tuesdays.” The juveniles provided a wide variety of things they liked about the group from the content (e.g., “I liked the coping skills”), to support (e.g., “I liked how they check in before and after and how they really value what you feel and think and try to help you and work with you to better yourself”). The majority of youth’s dislikes about group focused upon candy (e.g., “I don’t like that we never got 2 cups of candy”) and other group members’ behavior (e.g., “I don’t like people who talk about stuff that is not related to what we are talking about”).

Other comments juveniles had about the Trauma Skills Program included their appreciation for the staff who taught the curriculum (e.g., “Thank you for all of the time and effort you all put in”) and support for increased access to information about trauma (e.g., “I like trauma. I feel like it should be on the outside or juvie hall too”). Some youth expressed regret that they had not attended more sessions (e.g., “I wish I attended more

class”). Only one juvenile provided feedback about feeling forced to participate stating, “I don’t think we should be forced to go. It’s good information but we shouldn’t be punished if we don’t show up.”

### **Primary Aim: Part 2**

Paired sample t-tests were performed to test the effect of the Trauma Skills Program on symptoms of PTSD (i.e., total symptoms, negative alterations in cognitions and mood, hyperarousal, re-experiencing, and avoidance symptoms), physical altercations, unit rule violations, knowledge of trauma, comfort discussing trauma, healthy coping skills, perceived support from staff at YDF, and willingness to engage in future trauma treatment at pre-program and post-program. Paired sample t-tests were unable to be completed for all symptoms of PTSD (i.e., total symptoms, negative alterations in cognitions and mood, hyperarousal, re-experiencing, and avoidance symptoms) due to only 4 participants completing the CATS at pre- and post-program. Paired sample t-tests to assess changes in program restrictions and physical altercations from pre- to post-program were not completed due to significant violations of the assumptions, specifically normality. Paired sample t-tests were run for the remaining variables, though were significantly below power due to only having 17 juveniles who completed the pre- and post-program items.

A paired samples t-test of 15 juveniles indicated that juveniles reported being on a higher program level post-program ( $M = 2.20$ ,  $SD = 1.01$ ), than pre-program ( $M = 1.53$ ,  $SD = 0.64$ ). The difference was statistically significant,  $t(14) = -2.87$ ,  $p = .01$ . See Figure 12 in the Appendix for more details. A paired samples t-test of 15 juveniles found no



statistically significant difference between juveniles' self-report of overall behaviors during the week of assessment from pre- to post-program,  $t(14) = 0.38, p = .71$ .

A paired samples t-test of 16 juveniles found that juveniles reported more knowledge about trauma and trauma symptoms post-program ( $M = 3.06, SD = 0.68$ ), than pre-program ( $M = 2.00, SD = 0.97$ ). The difference was statistically significant,  $t(15) = -4.00, p < .01$ . See Figure 13 in the Appendix for more details. A paired samples t-test of 15 juveniles found no statistically significant difference between juveniles comfort discussing scary and traumatic events from pre- to post-program,  $t(14) = -1.38, p = .19$ . A paired samples t-test of 15 juveniles found juveniles reported higher levels of perceived support regarding trauma symptoms (e.g., talking to staff and support with coping skill use) at post-program ( $M = 3.07, SD = 0.88$ ), than pre-program ( $M = 2.47, SD = 1.13$ ). The difference was statistically significant,  $t(14) = -2.36, p = .03$ . See Figure 14 in the Appendix for more details. A paired samples t-test of 15 juveniles found juveniles reported higher levels of healthy coping skills at post-program ( $M = 2.65, SD = 0.93$ ), than pre-program ( $M = 1.88, SD = 0.70$ ). The difference was statistically significant,  $t(14) = -3.79, p < .01$ . See Figure 15 in the Appendix for more details. A paired samples t-test of 17 juveniles found no statistically significant difference between juveniles willingness to engage in future therapy for trauma-related symptoms from pre- to post-program,  $t(16) = -0.29, p = .78$ .

#### **Chapter 4: Discussion**

The goal of the current study was to examine the effectiveness of the Trauma Skills Program in decreasing trauma-related symptoms, physical altercations on the units, and unit rule violations as well as increasing knowledge of trauma, comfort discussing

trauma, healthy coping skills, perceived support from staff at YDF, and willingness to engage in future trauma treatment for male and female juveniles from pre- to post-program. Overall findings indicate that the program was effective in increasing knowledge about trauma, support at YDF, use of healthy coping skills, and willingness to engage in future treatment for trauma from pre- to post-program. However, no differences were reported in overall changes in trauma-related symptoms from pre- to post-program. There were significant gender differences observed across a variety of variables, with females reporting higher levels of all trauma-related symptoms (negative alterations in cognitions and mood, avoidance and re-experiencing symptoms), with the exception of hyperarousal symptoms, as well as higher levels of comfort discussing traumatic events and interest in seeking treatment for trauma and trauma-related symptoms.

While females reported consistently higher levels of PTSD symptoms, except for hyperarousal, than males; there was no significant change in levels of PTSD symptoms from pre- to post-program. Given that the Trauma Skills Program did not include a gradual exposure component, often considered a crucial part of trauma treatment, this might explain why a significant decrease in trauma-related symptoms did not occur. Gradual exposure is considered to be the gold standard in the field for treating trauma-related symptoms. However, creators of TF-CBT, Cohen and colleagues (2012) expressed significant concerns about using gradual exposure when the client is experiencing ongoing chaos. For example, juveniles may be unable to complete gradual exposure due to potential placement changes and current crises in their environment. Instead, provision of safety enhancement and coping skills is prioritized to manage safety

concerns and distress. Cohen and colleagues (2006) emphasized the importance of multiple sessions specifically focused upon gradual exposure to the juvenile's trauma without interruptions. Ending treatment in the middle of trauma narration is considered the least optimal time and all efforts should be made to prevent that from occurring, including transfer to another clinician (Cohen et al., 2012).

One possible interpretation of these results is that the Trauma Skills Program is not effective in changing trauma-related symptoms. At this time, it is unclear whether this is related to the program itself or extraneous factors. For instance, initial exacerbation of trauma-related symptoms after beginning imaginal exposure and inconsistent attendance could have impacted the results. While no formal exposure to trauma memories was utilized in the Trauma Skills Program, gradual exposure is incorporated into all TF-CBT components, including psychoeducation, relaxation, affective, and cognitive processing skills (Cohen et al., 2012). All four of these components were included within the Trauma Skills Program. While there is natural fluctuation in trauma-related symptoms during treatment and after beginning imaginal exposure, some individuals report a clinically significant increase in trauma-related symptoms within the first week after beginning imaginal exposure (Foa et al., 2002). Individuals who have consistently engaged in avoidance behaviors can experience increased overall trauma related symptoms after decreasing avoidance behaviors. In addition, as a result of inconsistent attendance of the Trauma Skills Program (i.e., 45 out of 112 juveniles reported only attending one to three sessions), it should not be assumed that post-program data is representative of juveniles who have received all of the program curriculum. Analyses were unable to be conducted to determine if there was a difference in trauma-related

symptoms for juveniles who attended sessions focused upon psychoeducation, skill development, or both. Initial exacerbation of trauma-related symptoms after beginning imaginal exposure and inconsistent attendance could explain why there was no decrease in overall or specific trauma related symptoms (i.e., negative alterations in cognitions and mood, re-experiencing, hyperarousal, and avoidance symptoms).

While there was no overall significant difference in trauma-related symptoms before and after the Trauma Skills Program, there was a significant difference in knowledge of trauma and willingness to engage in treatment. Juveniles reported increased perceived support at YDF, from staff and the group, as well as increased use of healthy coping skills at post-program. According to Cohen and colleagues (2012) perceived support from caregivers or other supportive adults, is associated with increased effectiveness of TF-CBT in decreasing trauma-related symptoms. While the trauma-related symptoms did not decrease as a result of the Trauma Skills Program, the increased support experienced by those juveniles may demonstrate that some adults in positions of power/authority can be viewed as caring and encouraging as well as relied upon for support. Many juvenile justice involved youth do not have consistent and stable support, which is often associated with more successful outcomes (Cohen et al., 2012). Additionally, the majority of juveniles in the Trauma Skills Program indicated experiencing more than one type of trauma which is consistent with complex trauma. Juveniles with complex trauma are more likely to report difficulty forming positive and stable relationships and to be distrustful of others (Briere & Lanktree, 2011). While increased perceived support may not result in immediate symptom reduction, it could provide support for future trauma-related treatment.

Female juveniles reported significantly higher perceived support in YDF than their male peers at both pre- and post-program. Herrera and McCloskey (2003) suggested that female juveniles' aggression is often a direct reaction to their own experiences of victimization (e.g., physical or sexual abuse). A review of the literature by Kerig and colleagues (2010) found that for females, parents who have mistreated the juveniles are often directly responsible for their involvement with juvenile justice. For example, parents who initiate mutually aggressive incidents will call the police to arrest their daughters. As the research indicates that females are less likely than males to have supportive caregivers, their higher levels of perceived support from staff might be of increased importance in regard to developing healthy relationships with adults and/or authority figures. By modeling effective communication and conflict resolution strategies, staff can support juveniles in using more effective healthy coping skills, which in turn can decrease trauma-related symptoms.

Juveniles reported significantly higher levels of healthy coping skills for trauma-related symptoms after completing the Trauma Skills Program. Qualitative data provided additional support for juveniles' identification of helpful coping skills that they can utilize even outside of YDF (e.g., anger management and mindfulness strategies). As many avoidance behaviors (e.g., substance use and emotional numbing; Kerig et al., 2010) increase the likelihood of involvement with juvenile justice, juveniles' increased use of healthy coping skills may facilitate increased long-term stability and improved relationships with peers and adults. In the present study, female juveniles reported more trauma-related symptoms, though both male and female juveniles utilize similar levels of coping strategies.

An important goal of the Trauma Skills Program was to increase juveniles' willingness to engage in future individual or group trauma treatment, since it was expected that the majority of juveniles would likely have a short length of stay at YDF and therefore be unable to complete a full trauma treatment protocol. As expected, limited time in YDF was observed for the majority of juveniles on the trauma units in this study. Additionally, juveniles had inconsistent attendance and as a result, many juveniles did not complete the entire Trauma Skills Program. Both males and females reported increased willingness to engage in future trauma treatment after completing the Trauma Skills Program. As trauma and trauma-related symptoms are a significant risk factor for future involvement with juvenile justice, the more juveniles are willing to engage in and complete trauma treatment, the greater the possibility this risk will be reduced.

### **Limitations**

As often observed when collecting data from juvenile justice involved youth, specifically within a youth detention facility, a number of limitations were found. As previously discussed, the majority of juveniles did not complete the entire Trauma Skills Program curriculum either as a result of inconsistent attendance, discharging from YDF before the Trauma Skills Program was completed, or being admitted to YDF after the Trauma Skills Program had begun. The majority of data was only collected during sessions one and ten and inconsistently during sessions two, three, and nine. To improve data collection in the future, it would be important to increase the timepoints during which assessments are conducted. Administering assessments at an increased frequency would increase the number of juveniles for which there are multiple datapoints, allowing assessment of changes at the individual level during varying stages of treatment. Even if

there is not pre- and post-program data due to not completing the entire Trauma Skills Program, multiple datapoints from the same individual would improve the ability to evaluate the effectiveness of the Trauma Skills Program.

Another limitation of this program evaluation results from the collection of only self-report data. Some of the variables assessed (e.g., physical altercations and program violations) have been examined in other studies of trauma treatments conducted in youth detention facilities, by facility staff rather than self-report data (Baetz et al., 2021; Ford & Hawke, 2012). In the current study, significantly skewed data prevented use of statistical analyses due to the majority of juveniles reporting zero physical altercations or program violations occurring within the previous week at both pre- and post-program. These findings might be due to most juveniles having zero physical altercations or program violations, the impact of social desirability, or a lack of clarity regarding the question or timeframe. This result is different from research of other trauma treatments in secure juvenile facilities, which have found significant differences in physical altercations and program violations, at the facility level, from pre- to post-program (Baetz et al., 2021; Ford & Hawke, 2012).

Collecting self-report data might provide a unique contribution to research focused upon juvenile justice involved youth within secure facilities. Demographic information gathered from participants in the Trauma Skills Program indicated that many juveniles were uncertain regarding important details of their legal circumstances including whether they were Wards of the Juvenile Court, a Dependent of CPS, or if they had an IEP. This information has important clinical implications for providers working with juvenile justice involved youth. Providers should work with juveniles to ensure that

they are able to identify the facts regarding their legal circumstances to help them regain as much control regarding their legal involvement as possible.

Another clinically relevant observation gained through self-report measures was the increase in number of reported traumatic events experienced post-program compared with pre-program. Juveniles reported an increase in the number of traumas experienced, which could be a result of experiencing additional traumatic events during their detention in YDF, an increase in understanding of what constitutes a traumatic event, or an increase in willingness to disclose traumatic events. Future studies should consider utilizing the UCLA PTSD Reaction Index, which collects more information about a greater variety of traumatic events and the age that the event occurred, in order to better explain this finding. Identifying the juveniles' age of experience provides information regarding whether the event was a single event or chronic event and also whether the event occurred while the juvenile was in a secure detention facility. Clarity on this has both clinical and practical implications for future treatment as well as for detention facilities to ensure safety and security.

### **Future Directions**

Efforts should be made to continue to refine and improve the Trauma Skills Program as intended by the Plan-Do-Study-Act logic model. Corrections should be completed to resolve the limitations identified by the current project (e.g., complete assessment measures at multiple timepoints) to determine whether there are changes observed at the individual level. The majority of variables were compared at the program level (i.e., overall changes in means from pre- to post-program); future studies should consider gathering data at multiple time points such as upon entry to YDF, pre-program,



biweekly throughout program, post-program, upon release from YDF, and follow-up (e.g., one and six months after leaving YDF). Increasing frequency of assessments could improve the ability to enhance identification of the specific components within the Trauma Skills Program that are most effective at changing trauma-related symptoms and other variables associated with positive treatment outcomes (e.g., healthy coping skills and willingness to engage in future trauma treatment).

Efforts to improve the Trauma Skills Program should include identification of the ideal number of sessions, frequency of sessions, and session content. For example, future research could assess whether the length of the Trauma Skills Program should be shortened, the frequency of sessions should be increased from once a week to daily, or session content could be combined or reorganized. There are many barriers to increasing availability of mental health services, especially trauma interventions, and often stem from financial limitations. Enhanced state and/or federal funding will be necessary to increase access to mental health services, specifically trauma treatments, within juvenile detention facilities and to conduct systematic evaluations to assess program efficacy. It is important that assessments continue to be administered to juveniles at one- and six-month intervals after they leave the detention facility to determine if the interventions are producing lasting and generalizable improvements in symptoms (e.g., conduct and trauma-related symptoms) to outside placements. Due to various system barriers (e.g., unstable placements and lack of reliable follow-up contact information with both juveniles and caregivers), the majority of research examining the effectiveness of trauma interventions implemented within juvenile detention facilities have not included collection of follow-up data after juveniles have left the facility. Additional funding

would provide resources to facilitate the collection of follow-up data at one- and six-months to evaluate long-term impacts.

Understanding the intersection between trauma and juvenile justice is critical. To date, much of the research regarding trauma interventions has not been conducted in juvenile detention facilities. Despite the awareness of the importance of implementing trauma-informed and trauma-focused treatments in juvenile detention facilities, there are significant barriers to successful implementation of trauma interventions. For instance, juveniles' average length of stay in the current study was less than 20 days, though sometimes lasted six months or longer; this is not uncommon with this vulnerable population. To decrease such barriers, lobbying for state and federal regulations as well as state and federal funding will help ensure the implementation and evaluation of trauma-focused treatments within all juvenile detention facilities. Research should persist beyond identifying the optimal trauma-related intervention to include dissemination and implementation of such programs at the state and national level.

## References

- Ahrens, J., & Rexford, L. (2002). Cognitive processing therapy for incarcerated adolescents with PTSD. *Journal of Aggression, Maltreatment & Trauma*, 6(1), 201-216.
- American Psychiatric Association. (2013). Trauma and Stressor-Related Disorders. In *Diagnostic and statistical manual of mental disorders* (5th ed.).
- Baetz, C. L., Surko, M., Moaveni, M., McNair, F., Bart, A., Workman, S., ... & Horwitz, S. M. (2021). Impact of a trauma-informed intervention for youth and staff on rates of violence in juvenile detention settings. *Journal of Interpersonal Violence*, 36(17-18), NP9463-NP9482.
- Berwick, D. M. (1998). Developing and testing changes in delivery of care. *Annals of Internal Medicine*, 128(8), 651-656.
- Bloom, S. L., & Sreedhar, S. Y. (2008). The sanctuary model of trauma-informed organizational change. *Reclaiming Children and Youth*, 17(3), 48-53.
- Briere, J. N., & Lanktree, C. B. (2011). *Treating complex trauma in adolescents and young adults*. Sage Publications.
- Children's Bureau. U.S. Department of Health and Human Services. (2020). *Child Maltreatment 2018*. (Report No. 29).
- Cloitre, M., Miranda, R., Stovall-McClough, K. C., & Han, H. (2005). Beyond PTSD: Emotion regulation and interpersonal problems as predictors of functional impairment in chronic PTSD related to childhood abuse. *Behavior Therapy*, 36, 119-124.

- Cohen, J. A., Mannarino, A. P., & Deblinger, E. (2006). *Treating trauma and traumatic grief in children and adolescents*. Guilford.
- Cohen, J. A., Mannarino, A. P., & Deblinger, E. (Eds.). (2012). *Trauma-focused CBT for children and adolescents: Treatment applications*. Guilford.
- Cohen, J. A., Mannarino, A. P., & Deblinger, E. (2016). *Treating trauma and traumatic grief in children and adolescents*. Guilford.
- Cohen, J. A., Mannarino, A. P., Janokowski, K., Rosenberg, S., Kodya, S., & Wolford, G. LII (2016). A randomized implementation study of trauma-focused cognitive behavioral therapy for adjudicated teens in residential treatment facilities. *Child Maltreatment*, 21(2), 156–167.
- Copeland, W. E., Shanahan, L., Hinesley, J., Chan, R. F., Aberg, K. A., Fairbank, J. A., ... & Costello, E. J. (2018). Association of childhood trauma exposure with adult psychiatric disorders and functional outcomes. *JAMA Network Open*, 1(7), 1-11.
- Dierkhising, C. B., Ko, S. J., Woods-Jaeger, B., Briggs, E. C., Lee, R., & Pynoos, R. S. (2013). Trauma histories among justice-involved youth: Findings from the National Child Traumatic Stress Network. *European Journal of Psychotraumatology*, 4(1), 1-12.
- Elwyn, L. J., Esaki, N., & Smith, C. A. (2015). Safety at a girls secure juvenile justice facility. *Therapeutic Communities: The International Journal of Therapeutic Communities*, 36(4), 209-218.
- Faul, F., Erdfolder, E., Buchner, A., & Lang, A. (1992). G\*Power Version 3.1.0 [computer software]. Germany: University Kiel.

- Foa, E. B., Zoellner, L. A., Feeny, N. C., Hembree, E. A., & Alvarez-Conrad, J. (2002). Does imaginal exposure exacerbate PTSD symptoms? *Journal of Consulting and Clinical Psychology, 70*(4), 1022-1028.
- Ford, J. (2015). An affective cognitive neuroscience-based approach to PTSD psychotherapy: The TARGET model. *Journal of Cognitive Psychotherapy, 29*(1), 68-91.
- Ford, J. D., & Hawke, J. (2012). Trauma affect regulation psychoeducation group and milieu intervention outcomes in juvenile detention facilities. *Journal of Aggression, Maltreatment & Trauma, 21*(4), 365-384.
- Ford, J. D., & Russo, E. (2006). Trauma-focused, present-centered, emotional self-regulation approach to integrated treatment for posttraumatic stress and addiction: Trauma adaptive recovery group education and therapy (TARGET). *American Journal of Psychotherapy, 60*(4), 335-355.
- Grassetti, S. N., Herres, J., Williamson, A. A., Yarger, H. A., Layne, C. M., & Kobak, R. (2014). Narrative focus predicts symptoms change trajectories in group treatment for traumatized and bereaved adolescents. *Journal of Clinical Child and Adolescent Psychology, 44*(6), 933-941.
- Gudiño, O. G., Weis, J. R., Havens, J. F., Biggs, E. A., Diamond, U. N., Marr, M., ... & Cloitre, M. (2014). Group trauma-informed treatment for adolescent psychiatric inpatients: A preliminary uncontrolled trial. *Journal of Traumatic Stress, 27*(4), 496-500.

- Harris, M., & Fallot, R. D. (2001). Trauma-informed inpatient services. In M. Harris & R. D. Fallot (Eds.), *Using Trauma Theory to Design Service Systems* (pp. 33–46). Jossey-Bass/Wiley.
- Herrera, V. M., & McCloskey, L. A. (2003). Sexual abuse, family violence, and female delinquency: Findings from a longitudinal study. *Violence and Victims, 18*(3), 319-334.
- Herz, D. C., & Dierkhising, C. B. (2018). OJJDP dual system youth design study: Summary of findings and recommendations for pursuing a national estimate of dual system youth: Final technical report. California State University, Los Angeles, School of Criminal Justice & Criminalistics.  
<https://www.ojp.gov/library/publications/ojjdp-dual-system-youth-design-study-summary-findings-and-recommendations>
- Hockenberry, S., & Puzzanchera, C. (2021). *Juvenile court statistics 2019*. National Center for Juvenile Justice. <https://www.ojp.gov/library/publications/juvenile-court-statistics-2019>
- IBM Corp. (2019). *IBM SPSS Statistics for Windows, Version 26.0*. Armonk, NY: IBM Corp. [Computer software].
- Justice Policy Institute. (2020). *Sticker shock 2020: The cost of youth incarceration*. Justice Policy Institute. <https://justicepolicy.org/research/policy-brief-2020-sticker-shock-the-cost-of-youth-incarceration/>
- Kerig, P. K., Becker, S. P., & Egan, S. (2010). From internalizing to externalizing: Theoretical models of the processes linking PTSD to juvenile delinquency. In

*Posttraumatic stress disorder (PTSD): Causes, symptoms and treatment*, (S. Egan, Eds.). Nova Science Publishers.

Layne, C. M., Pynoos, R. S., Saltzman, W. R., Arslanagić, B., Savjak, N., Popović, T., & Houston, R. (2001). Trauma/grief-focused group psychotherapy: School-based postwar intervention with traumatized Bosnian adolescents. *Group Dynamics: Theory, Research, and Practice*, 5(4), 277–290.

Layne, C. M., Saltzman, W. R., Poppleton, L., Burlingame, G. M., Pašalić, A., Duraković, E., ... & Pynoos, R. S. (2008). Effectiveness of a school-based group psychotherapy program for war-exposed adolescents: A randomized controlled trial. *Journal of the American Academy of Child & Adolescent Psychiatry*, 47(9), 1048-1062.

Lynch, S. M., Heath, N. M., Mathews, K. C., & Cepeda, G. J. (2012). Seeking safety: An intervention for trauma-exposed incarcerated women? *Journal of Trauma and Dissociation*, 13(1), 88-101.

Magnan, S. (2017). *Social determinants of health 101 for health care: Five plus five*. NAM Perspectives.

Magnan, S. (2021). *Social determinants of health 201 for health care: Plan, do, study, act*. NAM Perspectives.

McLaughlin, K. A., Koenen, K. C., Hill, E. D., Petukhova, M., Sampson, N. A., Zaslavsky, A. M., & Kessler, R. C. (2013). Trauma exposure and posttraumatic stress disorder in a national sample of adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry*, 52(8), 815-830.

- Miller, E. A., Green, A. E., Fettes, D. L., & Aarons, G. A. (2011). Prevalence of maltreatment among youths in public sectors of care. *Child Maltreatment, 16*(3), 196-204.
- Najavits, L. M. (2002). Seeking safety: a new psychotherapy for posttraumatic stress disorder and substance use disorder. In: *Trauma and Substance Abuse: Causes, Consequences, and Treatment of Comorbid Disorders* (P. Ouimette & P. Brown, Eds.). American Psychological Association Press.
- Najavits, L. M., Gallop, R. J., & Weiss, R. D. (2006). Seeking safety therapy for adolescent girls with PTSD and substance use disorder: A randomized controlled trial. *The Journal of Behavioral Health Services and Research, 33*(4), 453-463.
- National Child Traumatic Stress Network (2020). Think trauma: A training for working with justice-involved youth, (2<sup>nd</sup> ed.).  
<https://learn.nctsn.org/mod/resource/view.php?id=12323>
- Olafson, E., Boat, B. W., Putnam, K. T., Thieken, L., Marrow, M. T., & Putnam, F. W. (2018). Implementing trauma and grief component therapy for adolescents and think trauma for traumatized youth in secure juvenile justice settings. *Journal of Interpersonal Violence, 33*(16), 2537-2557.
- Raider, M. C., Steele, W., Delillo-Storey, M., Jacobs, J., & Kuban, C. (2008). Structured sensory therapy (SITCAP-ART) for traumatized adjudicated adolescents in residential treatment. *Residential Treatment for Children and Youth, 25*(2), 167-185.
- Resick, P. A., Monson, C. M., & Chard, K. M. (2017). *Cognitive processing therapy for PTSD: A comprehensive manual*. Guilford.



- Resick, P. A. & Schnicke, M. K. (1993). *Cognitive processing therapy for rape victims: A treatment manual*. Sage.
- Rhoden, M. A., Macgowan, M. J., & Huang, H. (2019). A systematic review of psychological trauma interventions for juvenile offenders. *Research on Social Work Practice, 29*(8), 892-909.
- Sachser, C., Berliner, L., Holt, T., Jensen, T. K., Jungbluth, N., Risch, E., ... & Goldbeck, L. (2017). International development and psychometric properties of the Child and Adolescent Trauma Screen (CATS). *Journal of Affective Disorders, 210*, 189-195.
- Savaya, R., & Waysman, M. (2005). The logic model: A tool for incorporating theory in development and evaluation of programs. *Administration in Social Work, 29*(2), 85-103.
- Schubert, C. A., & Mulvey, E. P. (2014). Behavioral health problems, treatment, and outcomes in serious youthful offenders (pp. 264-268). US Department of Justice, Office of Justice Programs, Office of Juvenile Justice and Delinquency Prevention.
- Smith, D. K., Chamberlain, P., & Deblinger, E. (2012). Adapting Multidimensional Treatment Foster Care for the treatment of co-occurring trauma and delinquency in adolescent girls. *Journal of Child and Adolescent Trauma, 5*(3), 224-238.
- Snyder, S. E. (2018). Implementation of trauma-focused cognitive-behavioral therapy in juvenile detention: A practice note from the field. *Practice Innovations, 3*(4), 284-294.
- Tabachnick, B. G., & Fidell, L. S., (2012). *Using multivariate statistics* (6<sup>th</sup> ed.). Pearson.

Zettler, H. R. (2021). Much to do about trauma: A systematic review of existing trauma-informed treatments on youth violence and recidivism. *Youth Violence and Juvenile Justice, 19*(1), 113-134.

**Appendix A: Tables**

**Table 1**

*Frequency at Pre- and Post-Program*

	Pre		Post	
	N	Percentage	N	Percentage
<b>Ethnicity</b>				
Black/African American	43	34.13%	17	34.69%
Hispanic/Latino/Spanish	22	17.46%	7	14.29%
American Indian or Alaskan Native	1	0.79%	1	2.04%
Native Hawaiian or Pacific Islander	3	2.38%	1	2.04%
Asian	1	0.79%	0	0.00%
White/Caucasian	10	7.94%	4	8.16%
Other	1	0.79%	1	2.04%
Multiracial	45	35.71%	18	36.73%
Total	126	100.00%	49	100.00%
<b>Placement</b>				
Biological Mother or Father	72	58.06%	28	57.14%
Other Relative	18	14.52%	5	10.20%
Foster Home-Relative	2	1.61%	0	0.00%
Foster Home- Nonrelative	3	2.42%	2	4.08%
Group Home/Placement	13	10.48%	8	16.33%
Other	16	12.90%	6	12.24%
Total	124	100.00%	49	100.00%
<b>Ward of the Court</b>				
Yes	53	43.09%	23	50.00%
No	43	34.96%	14	30.43%
I am not sure	27	21.95%	9	19.57%
Total	123	100.00%	46	100.00%
<b>CPS Dependent</b>				
Yes	28	22.40%	9	19.15%
No	85	68.00%	32	68.09%
I am not sure	12	9.60%	6	12.77%
Total	125	100.00%	47	100.00%
<b>IEP</b>				
Yes	39	32.23%	16	33.33%
No	66	54.55%	26	54.17%
I am not sure	16	13.22%	6	12.50%
Total	121	100.00%	48	100.00%

**Table 2***Means of Variables for Female and Male Juveniles at Pre- and Post-Program*

	Female				Male			
	Pre		Post		Pre		Post	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Age	16.18	1.31	16.47	1.24	14.81	1.19	15.21	1.61
Program Level	1.20	0.45	1.38	0.50	1.47	0.65	2.21	0.88
Program Restriction	0.16	0.50	0.04	0.20	0.24	0.56	0.17	0.38
Physical Altercation	0.04	0.19	0.00	0.00	0.10	0.31	0.08	0.28
Behavior	3.82	1.14	3.96	1.12	3.71	1.13	3.58	1.18
CATS Events Total	6.00	4.01	8.02	3.96	4.76	2.94	6.61	3.38
CATS Effects Total	30.36	15.75	28.35	14.12	19.49	15.13	19.69	13.43
CATS Re-experiencing	8.44	4.71	7.46	3.86	4.63	4.46	4.71	3.85
CATS Avoidance	4.44	2.36	4.72	2.51	2.51	2.36	2.58	2.37
CATS Negative Cognitions	9.04	5.24	7.76	5.07	5.84	5.42	5.29	4.30
CATS Hyperarousal	8.44	5.52	8.41	5.06	6.51	4.57	7.11	5.24
Knowledge Comfortable	2.68	1.14	3.07	0.75	1.97	0.98	2.72	0.85
Talking	2.93	1.00	2.80	0.99	2.52	1.16	2.53	1.05
Supported	2.73	0.92	3.02	0.94	2.12	1.04	2.59	0.91
Healthy coping Group	2.29	0.85	2.69	0.87	1.91	0.85	2.65	0.80
Treatment Individual	2.74	1.03	3.16	0.89	2.62	0.99	3.00	0.83
Treatment	2.51	1.09	2.88	1.01	2.23	1.06	2.44	1.12

**Table 3***Correlations for Pre-Program Variables*

	Sex	Program Level	Program Restrictions	Physical Altercations	Behavior	CATS Events Total	CATS Effects Total	CATS Re-experiencing
Sex								
Program Level	-0.23							
Program Restriction	-0.08	-0.08						
Physical Altercation	-0.13	0.11	0.13					
Behavior	0.05	0.07	-0.32**	-0.21*				
CATS Events Total	0.18	0.13	-0.01	0.04	-0.10			
CATS Effects Total	0.33**	0.02	-0.04	0.06	-0.20	0.47**		
CATS Re-experiencing	0.38**	-0.01	0.02	0.12	-0.08	0.36**	0.86**	
CATS Avoidance	0.37**	0.09	-0.01	0.07	-0.17	0.35**	0.89**	0.75**
CATS Negative Cognitions	0.28	-0.02	-0.05	0.02	-0.22	0.45**	0.94**	0.73**
CATS Hyperarousal	0.19	0.04	-0.08	0.03	-0.24	0.48**	0.90**	0.61**
Knowledge	0.32**	-0.04	0.04	-0.12	0.05	0.23	0.21	0.15
Comfortable Talking	0.19*	0.17	0.10	0.03	0.26	0.19	-0.07	-0.08
Supported	0.30**	0.20*	-0.04	0.06	0.24*	0.10	-0.16	-0.06
Healthy coping	0.22**	0.13	0.07	-0.11	0.08	0.36**	0.08	0.01
Group Treatment	0.06	0.12	0.14	-0.15	0.14	0.12	-0.13	-0.07
Individual Treatment	0.13	0.06	0.15	0.05	0.16	0.31*	0.18	0.20

*Note.* \* $p < .05$ , \*\* $p < .01$

**Table 4***Correlations for Pre-Program Variables Continued*

	CATS Avoidance	CATS Negative Cognition	CATS Hyperarousal	Knowledge	Comfort Talking	Supported	Healthy Coping	Group Treatment
Sex								
Program Level								
Program Restriction								
Physical Altercation Behavior								
CATS Events Total								
CATS Effects Total								
CATS Re- experiencing								
CATS Avoidance								
CATS Negative Cognitions	0.80**							
CATS Hyperarousal	0.75**	0.83**						
Knowledge	0.22	0.21	0.21					
Comfortable Talking	-0.03	-0.06	-0.08	0.28**				
Supported	-0.21	-0.19	-0.14	0.09	0.39**			
Healthy coping	0.09	0.12	0.07	0.47	0.39**	0.38**		
Group Treatment	-0.21	-0.12	-0.12	0.28**	0.39**	0.32**	0.25**	
Individual Treatment	0.16	0.19	0.09	0.17	0.24**	0.25**	0.25**	0.60**

*Note.* \* $p < .05$ , \*\* $p < .01$

**Table 5***Correlations for Post-Program Variables*

	Sex	Program Level	Program Restrictions	Physical Altercations	Behavior	CATS Events Total	CATS Effects Total	CATS Re-experiencing
Sex								
Program Level	-0.51**							
Program Restriction	-0.21	0.07						
Physical Altercation	-0.20	0.22	0.61**					
Behavior	0.16	-0.11	-0.29*	-0.23				
CATS Events Total	0.19	0.04	0.01	0.07	-0.12			
CATS Effects Total	0.30**	0.09	-0.08	-0.14	-0.16	0.58**		
CATS Re-experiencing	0.34**	0.05	-0.15	-0.12	-0.14	0.50**	0.83**	
CATS Avoidance	0.41**	-0.11	-0.15	-0.13	0.00	0.43**	0.81**	0.66**
CATS Negative Cognitions	0.26*	0.15	-0.04	-0.12	-0.19	0.54**	0.90**	0.65**
CATS Hyperarousal	0.13	0.14	0.00	-0.12	-0.15	0.50**	0.87**	0.58**
Knowledge Comfortable Talking	0.21	0.00	0.12	0.02	0.18	0.17	0.20	0.22
Supported	0.13	-0.14	0.09	-0.10	0.06	0.04	0.16	0.06
Healthy coping	0.22*	-0.04	-0.19	-0.12	0.38	0.01	0.15	0.22
Group Treatment	0.03	-0.04	-0.15	-0.11	0.37*	-0.09	-0.06	-0.04
Individual Treatment	0.09	0.05	0.16	-0.01	0.08	0.10	0.10	0.08
Individual Treatment	0.20*	0.15	0.12	0.06	0.00	0.30**	0.19	0.18

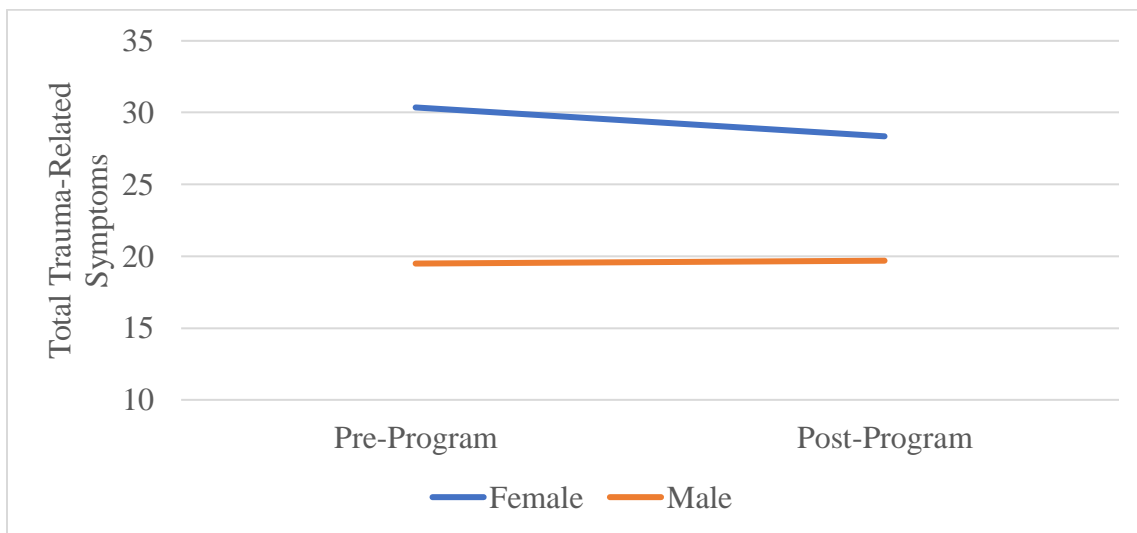
Note. \*p < .05, \*\*p < .01

**Table 6***Correlations for Post-Program Variables Continued*

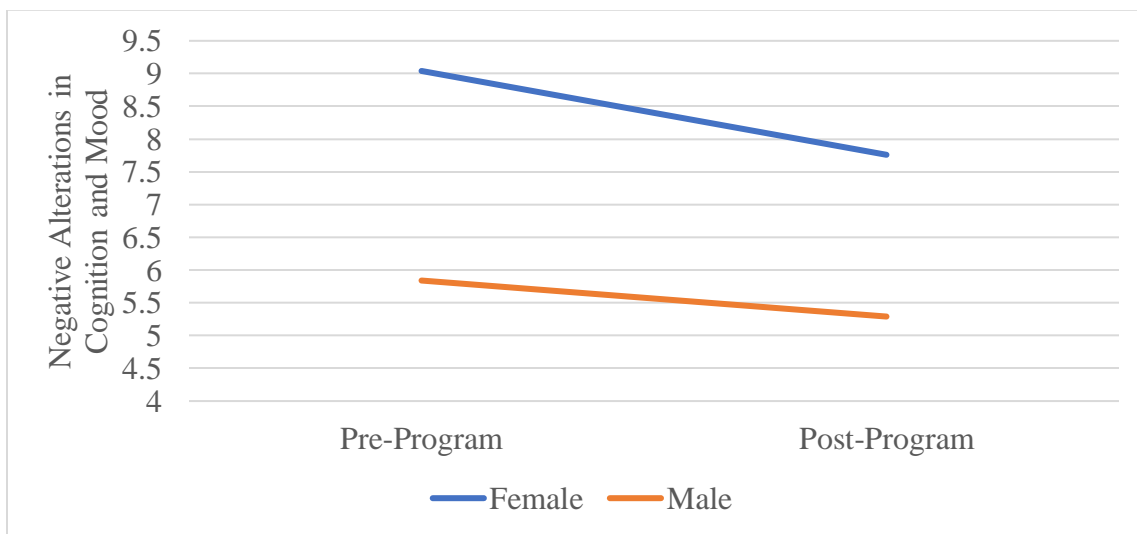
	CATS Avoidance	CATS Negative Cognitions	CATS Hyperarousal	Knowledge	Comfort Talking	Supported	Healthy Coping	Group Treatment
Sex								
Program Level								
Program Restriction								
Physical Altercation								
Behavior								
CATS Events Total								
CATS Effects Total								
CATS Re- experiencing								
CATS Avoidance								
CATS Negative Cognitions	0.68**							
CATS Hyperarousal	0.58**	0.72**						
Knowledge	0.18	0.25*	0.07					
Comfortable Talking	0.29*	0.16	0.10	0.55**				
Supported	0.19	0.09	0.07	0.48**	0.50**			
Healthy coping	0.01	-0.13	-0.04	0.42**	0.31**	0.48		
Group Treatment	0.09	0.15	0.02	0.37**	0.26*	0.33**	0.45**	
Individual Treatment	0.16	0.24*	0.07	0.40**	0.13	0.24	0.25*	0.60**

Note. \* $p < .05$ , \*\* $p < .01$

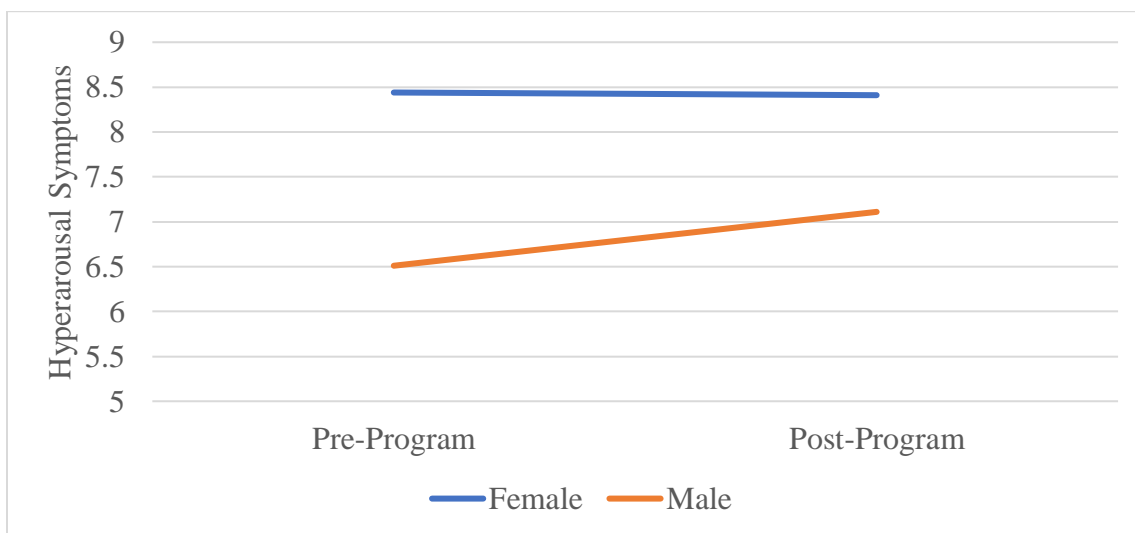


**Appendix B: Figures****Figure 1***Total Trauma-Related Symptoms*

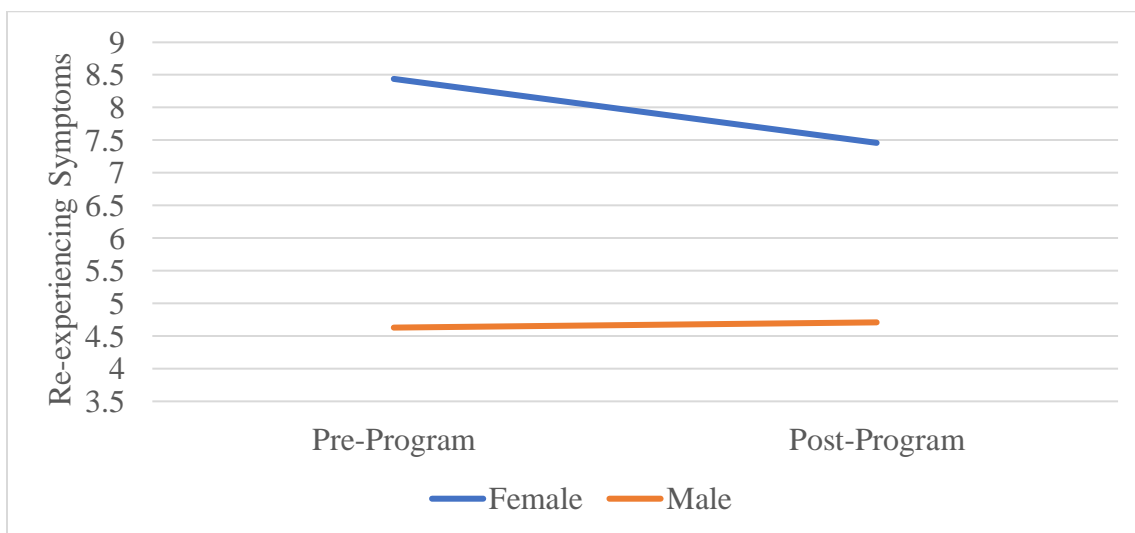
*Note.* The sample size for this analysis was 159 juveniles.

**Figure 2***Negative Alterations in Cognition and Mood*

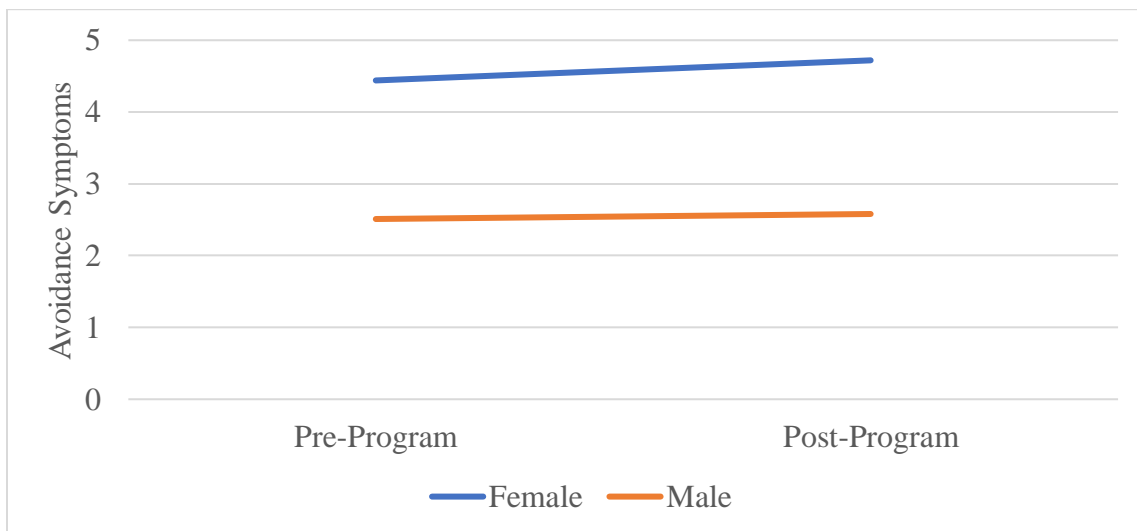
*Note.* The sample size for this analysis was 159 juveniles.

**Figure 3***Hyperarousal Symptoms*

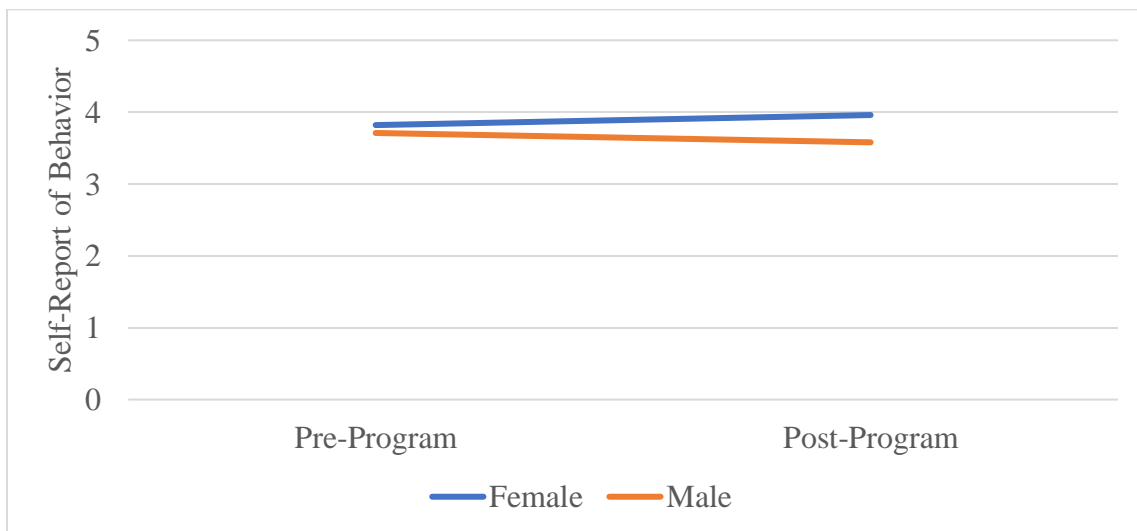
*Note.* The sample size for this analysis was 159 juveniles.

**Figure 4***Re-experiencing Symptoms*

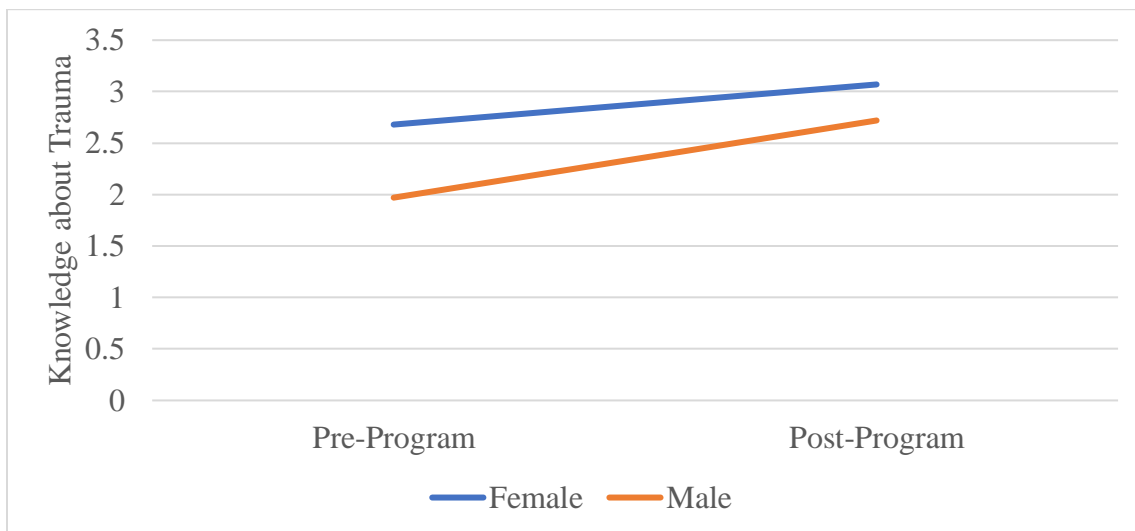
*Note.* The sample size for this analysis was 159 juveniles.

**Figure 5***Avoidance Symptoms*

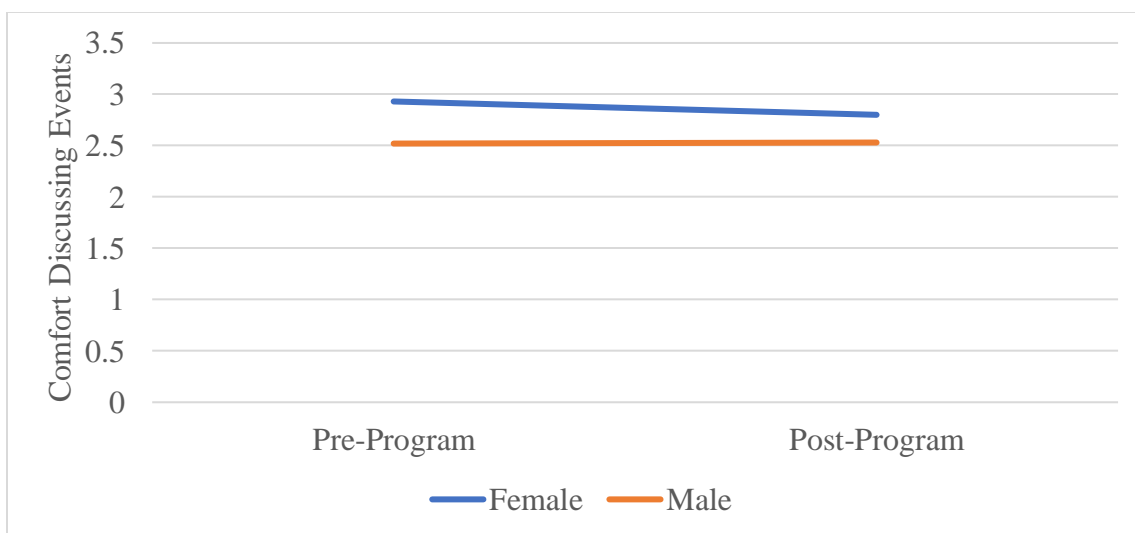
*Note.* The sample size for this analysis was 159 juveniles.

**Figure 6***Overall Self-Report of Behavior*

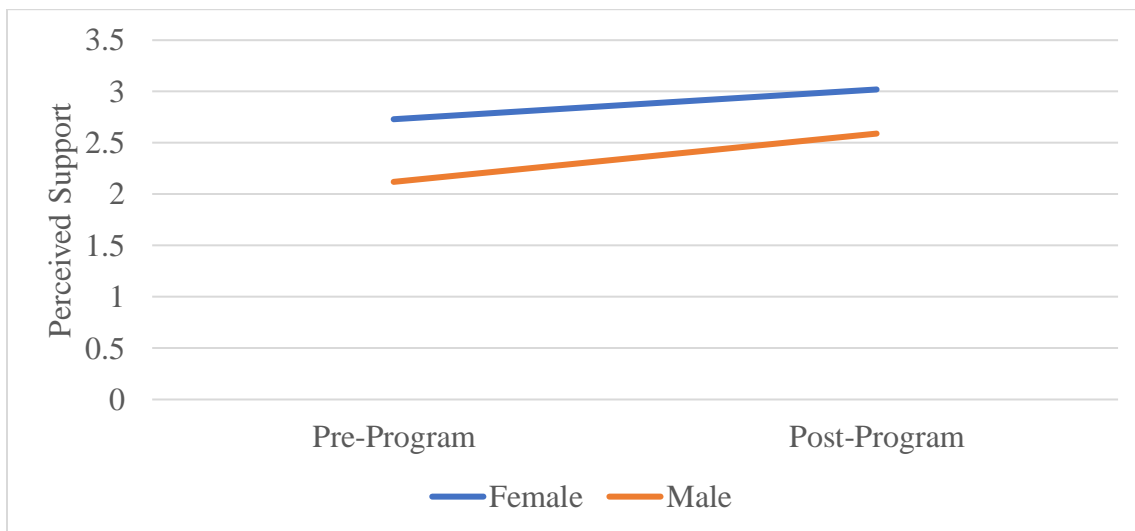
*Note.* The sample size for this analysis was 166 juveniles.

**Figure 7***Self-Reported Knowledge about Trauma and Trauma-Related Symptoms*

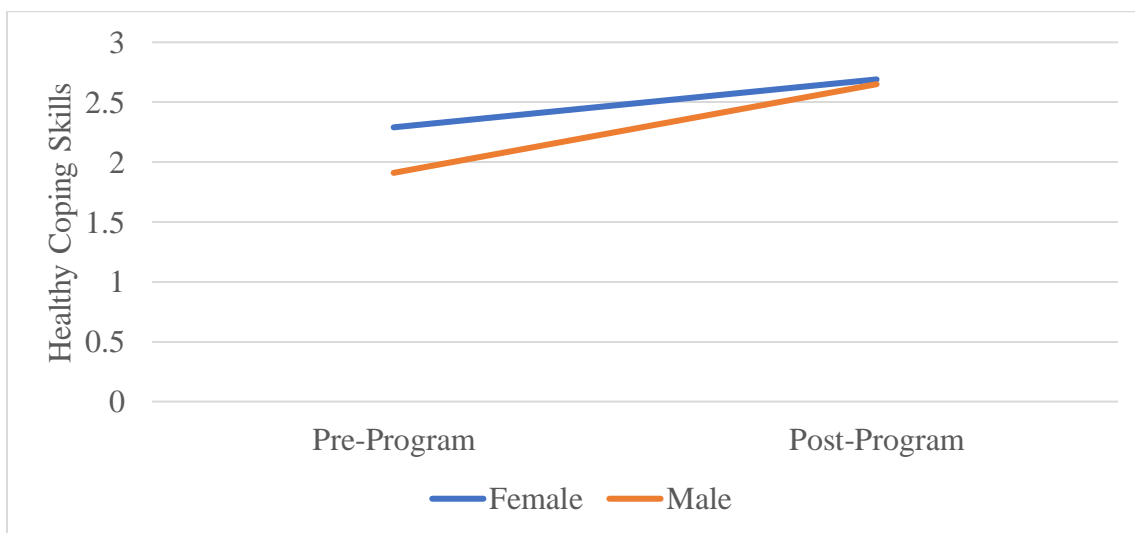
*Note.* The sample size for this analysis was 211 juveniles.

**Figure 8***Reported Comfort Discussing Scary and Traumatic Events*

*Note.* The sample size for this analysis was 207 juveniles.

**Figure 9***Perceived Support Regarding Trauma-Related Symptoms*

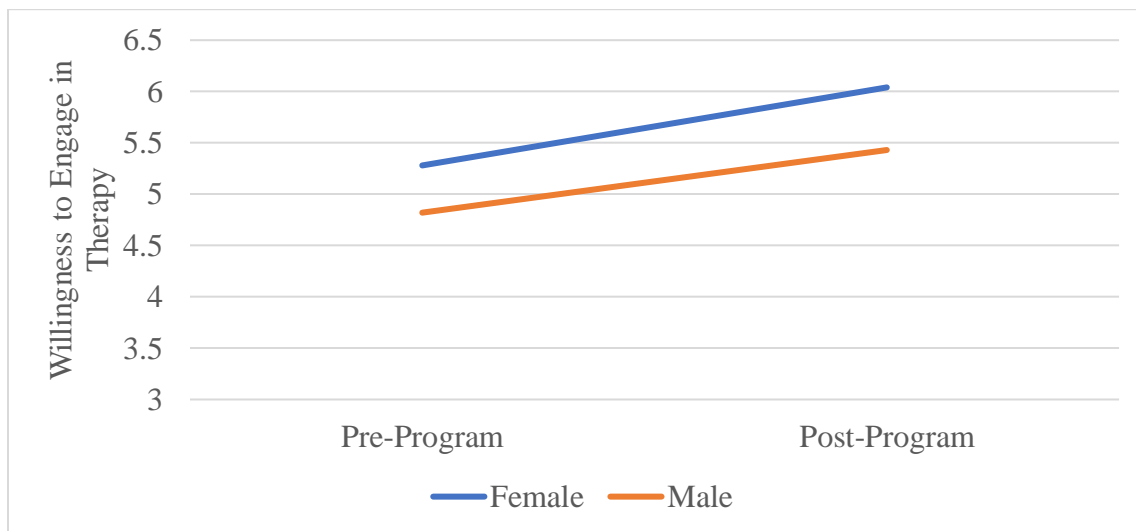
*Note.* The sample size for this analysis was 204 juveniles.

**Figure 10***Healthy Coping Skills for Trauma-Related Symptoms*

*Note.* The sample size for this analysis was 210 juveniles.

**Figure 11**

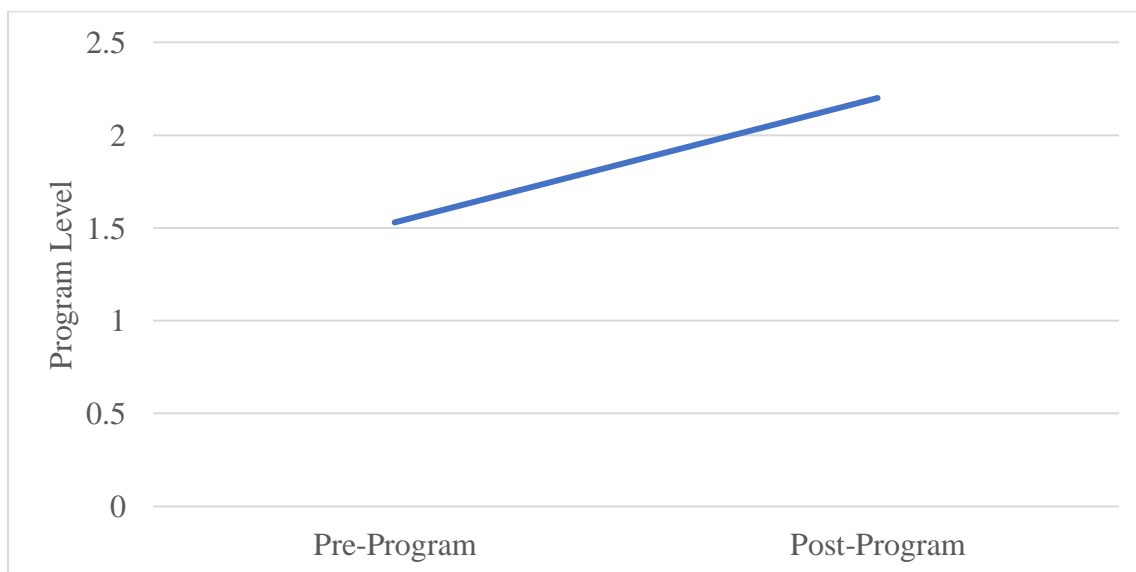
*Willingness to Engage in Therapy for Trauma and Trauma-Related Symptoms*



*Note.* The sample size for this analysis was 245 juveniles.

**Figure 12**

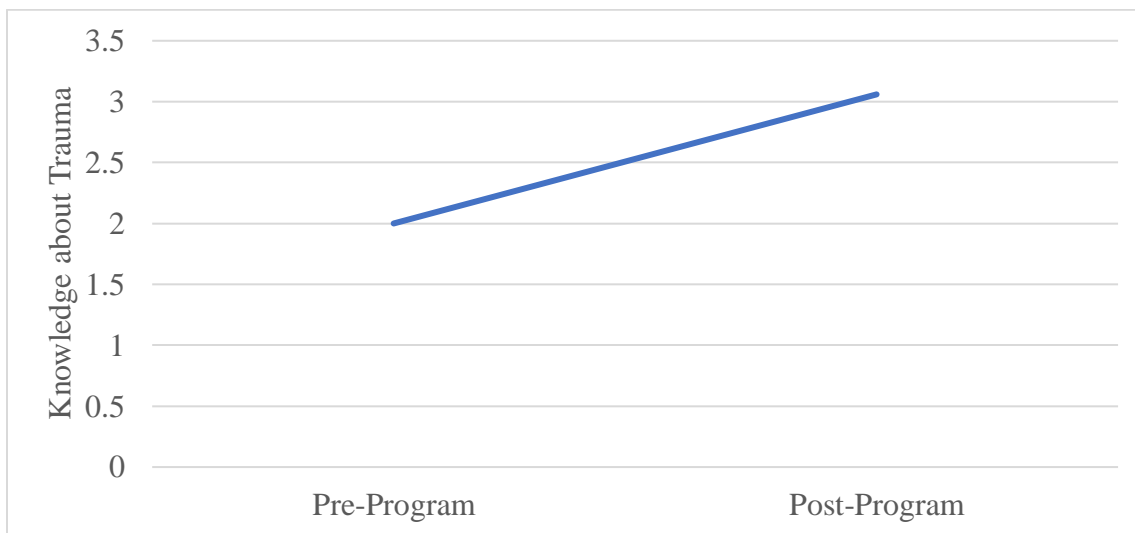
*Individual Changes in Program Levels*



*Note.* The sample size for this analysis was 15 juveniles.

**Figure 13**

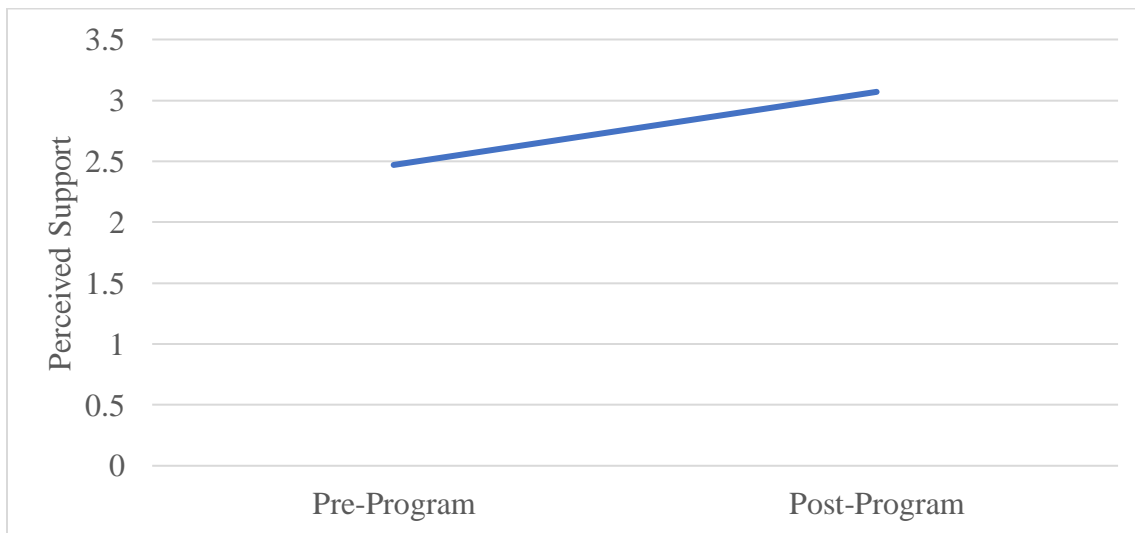
*Individual Changes in Self-Reported Knowledge about Trauma and Trauma-Related Symptoms*



*Note.* The sample size for this analysis was 16 juveniles.

**Figure 14**

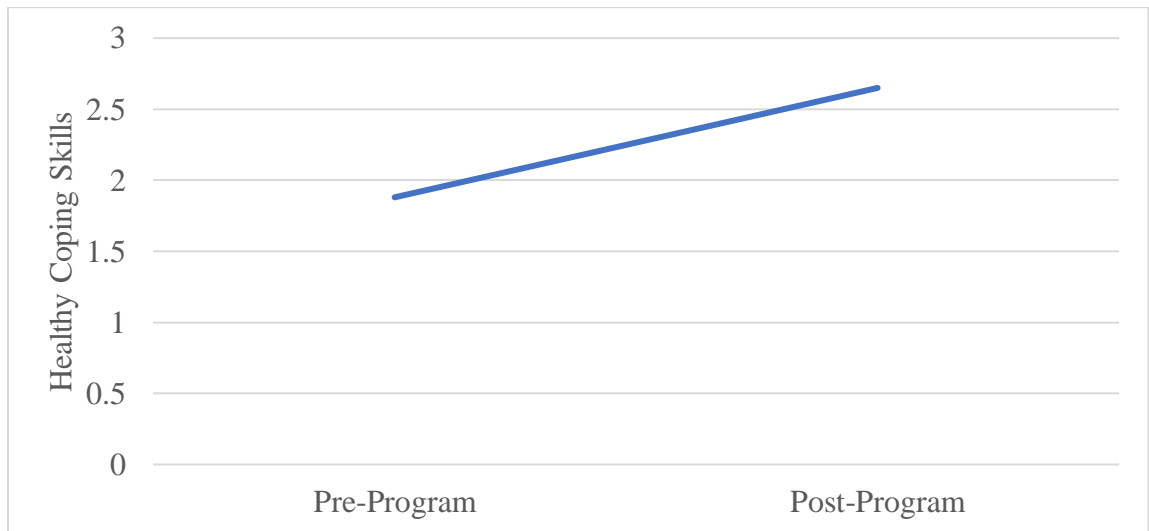
*Individual Changes in Perceived Support Regarding Trauma-Related Symptoms*



*Note.* The sample size for this analysis was 15 juveniles.

**Figure 15**

*Individual Changes in Healthy Coping Skills for Trauma-Related Symptoms*



*Note.* The sample size for this analysis was 17 juveniles.