

This article was downloaded by: [Childrens Mercy Hospital]

On: 08 August 2012, At: 12:55

Publisher: Routledge

Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK



Journal of Child & Adolescent Trauma

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/wcat20>

The Value of Implementing TARGET within a Trauma-Informed Juvenile Justice Setting

Monique T. Marrow^a, Kraig J. Knudsen^b, Erna Olafson^{c d} & Sarah E. Bucher^d

^a Nebraska Department of Health and Human Services

^b The Ohio Department of Mental Health

^c University of Cincinnati College of Medicine

^d Cincinnati Children's Hospital Medical Center

Version of record first published: 03 Aug 2012

To cite this article: Monique T. Marrow, Kraig J. Knudsen, Erna Olafson & Sarah E. Bucher (2012): The Value of Implementing TARGET within a Trauma-Informed Juvenile Justice Setting, *Journal of Child & Adolescent Trauma*, 5:3, 257-270

To link to this article: <http://dx.doi.org/10.1080/19361521.2012.697105>

PLEASE SCROLL DOWN FOR ARTICLE

Full terms and conditions of use: <http://www.tandfonline.com/page/terms-and-conditions>

This article may be used for research, teaching, and private study purposes. Any substantial or systematic reproduction, redistribution, reselling, loan, sub-licensing, systematic supply, or distribution in any form to anyone is expressly forbidden.

The publisher does not give any warranty express or implied or make any representation that the contents will be complete or accurate or up to date. The accuracy of any instructions, formulae, and drug doses should be independently verified with primary sources. The publisher shall not be liable for any loss, actions, claims, proceedings, demand, or costs or damages whatsoever or howsoever caused arising directly or indirectly in connection with or arising out of the use of this material.

The Value of Implementing TARGET within a Trauma-Informed Juvenile Justice Setting

MONIQUE T. MARROW,¹ KRAIG J. KNUDSEN,²
ERNA OLAFSON,^{3,4} AND SARAH E. BUCHER⁴

¹Nebraska Department of Health and Human Services

²The Ohio Department of Mental Health

³University of Cincinnati College of Medicine

⁴Cincinnati Children's Hospital Medical Center

This article describes a nonrandomized program evaluation study of a trauma-focused intervention for youth incarcerated for felony-level offenses in a juvenile justice setting. Thirty-eight youth previously assigned to two mental health units were provided with Treatment as Usual (TAU) plus a one day trauma training for staff, while 36 youth placed on three mental health units during the same time frame were provided with the intervention, which included TAU combined with environmental modifications, additional trauma training for staff, and Trauma Affect Regulation: Guide for Education and Therapy group for youth. Results showed significant reductions in depression, youth threats toward staff, use of physical restraints, and seclusion rates for youth on the intervention program units when compared with youth on the TAU program units. The youth involved in the intervention program also reported greater hope and optimism.

Keywords delinquency, traumatic-stress, restraint, seclusion, youth threats, violence, program implementation

It is well established that justice-involved youth in the United States report high rates of past and current child maltreatment and other traumatic events inclusive of family and more often community violence, and that these factors also produce an increased risk of delinquency (e.g., Egeland, Yates, Appleyard, & van Dulmen, 2002; Mersky & Reynolds, 2007; Veysey, 2008). Up to 90% of justice-involved youth experience emotional and behavioral difficulties linked to multiple childhood traumas and losses (Garland et al., 2001; Teplin, Abram, McClelland, Dulcan, & Mericle, 2002; Wasserman, McReynolds, Fisher, & Lucas, 2002). The prevalence of posttraumatic stress disorder (PTSD) in juvenile justice populations was found to be 8 times higher than in a community sample of similar peers (Abram et al., 2004; Wolpaw & Ford, 2004). At least 75% of youth in the juvenile justice system have been exposed to victimization, which is defined as being intentionally threatened or harmed by a trusted person, witnessing a loved one being intentionally harmed, or neglect, separation, or abandonment by trusted persons (Ford, Chapman, Mack, & Pearson, 2006). In 2010, 71% of the juveniles evaluated in one Pennsylvania county had potentially traumatic events (PTEs) documented in their files. These youth were more likely than those without a PTE history to use marijuana, have prior arrests, remain in criminal court, and have mental health diagnoses related to offending behaviors (Riggs

Submitted June 8, 2011; revised January 30, 2012; accepted February 28, 2012.

Address correspondence to Monique T. Marrow. E-mail: marrow.traumatiestress@gmail.com

Romaine, Sevin-Goldstein, Hunt, & DeMatteo, 2011). The likelihood that a youth will be arrested as a juvenile increases by 53% when that child has experienced child abuse and neglect (National Association of State Mental Health Program Directors/National Technical Assistance Center, 2004).

Rates of current PTSD in juvenile offender populations vary widely, from 24% to 51% among males and close to 49% among females (McMackin, Leisen, Sattler, Krinsley, & Riggs, 2002). One study found that 52% of female juvenile offenders could be considered PTSD positive (Wood, Foy, Goguen, Pynoos, & James, 2002). Even youth in the justice system who cannot be diagnosed with PTSD have likely had a traumatic experience, which can influence their behavior and thinking. In this population, internalizing problems (e.g., depression and anxiety) and externalizing problems (e.g., aggression, conduct problems, and oppositional or defiant behavior) appear to be at least partially rooted in disrupted development of appropriate emotional and behavioral regulation skills. This disruption is likely related to neurodevelopmental modifications in the brain and disrupted or chaotic psychosocial development (Putnam, 2006).

Youth involved in the juvenile justice system typically present more severe post-traumatic stress symptoms. An in-depth evaluation of incarcerated youth revealed histories of extensive exposures to violent death and frequent disturbing grief reactions (Wood, Foy, Layne, Pynoos, & Boyd James, 2002). In order to better understand the relationship between the traumatic event and actual delinquency, Becker and Kerig (2011) screened a group of boys assigned to a detention center in Ohio to determine whether they had experienced a traumatic event and then formally assessed them for a diagnosis of PTSD and later correlated symptom severity with degree of delinquency. They determined that the traumatic event itself was not necessarily the predominant variable associated with delinquency but rather that the severity of PTSD symptoms that occurred as a function of the traumatic event the youth identified as the most significant traumatic event was directly associated with the degree of delinquency as determined by arrests and the severity of charges. Similar findings are reported for a detained female adolescent population (Smith, Leve, & Chamberlain, 2009). Although a “causal” link between traumatic reactions and delinquency has not yet been shown in the literature, the correlations lead many researchers to wonder if there is a causal relationship at least between severity of PTSD symptoms and delinquency.

The current program evaluation grew out of a desire for a large Midwestern juvenile justice system to better understand whether implementing a multifaceted trauma-focused intervention would result in improvements in youth management and treatment outcomes. The project’s goal was to determine whether (a) increasing youth emotional and behavioral regulation skills, (b) providing training for staff on childhood traumatic stress, (c) helping staff problem solve effective ways to intervene with youth impacted, and (d) enhancing the unit environment to decrease noise and provide safe places to practice skills would lead to reductions in youth post traumatic stress symptoms, youth threats toward staff, and seclusion and restraint rates.

Method

Participants

Participants included 74 youth aged 11–19 years committed to state custody as a result of adjudications on a range of felony level offenses. All youth resided in a moderate-high security correctional facility on either an intervention (38 youth; 7 female, 31 male) or

treatment as usual (TAU; 36 male youth) mental health unit between October 2005 and August 2008. Participants included 7 females and 67 males. The youth were assigned to these units based upon standard institutional protocol and behavioral health needs and thus were not randomly assigned for purposes of this evaluation. Despite these factors, youth across units were determined to be reasonably similar in offense type and other demographic variables. All youth were committed for a period of at least six months but could remain in state custody until their 21st birthday. Mean ages for both the intervention group and TAU group was 17.4 years. Self-reported racial identity was not discrepant across units and was as follows: 75% Caucasian, 23% African American, and 2% other. All youth on the units during this time frame self-reported at least one trauma or adversity in their histories.

Program Description

TAU unit programming. The TAU unit staff and administrators received a one-day psychoeducational training, and social workers and psychologists from the TAU units were trained to administer the evaluation instruments necessary to compare programs (described below). TAU consisted of psychiatry services including medication management and consultation, psychological services that included individual therapy focused on the broad mental health needs of the youth, and social work services that included groups. TAU also included case management services focused primarily on thinking patterns that are thought to relate to delinquency and global case management, including both treatment and transition planning.

Intervention unit programming. The intervention was a multifaceted approach designed to infuse a trauma-informed program on a mental health unit and was comprised of three components. The first component was a one-day psychoeducational general trauma training on childhood traumatic stress for all staff that provided services on the mental health units and administrators responsible for those units. The second component was two-day training on Trauma Affect Regulation: Guide for Education and Therapy (TARGET) principles. This training was followed by three months of supervision and consultation on the implementation of the TARGET group. The third component of the intervention included modifications to the unit environments with a goal of reducing trauma triggers (especially noise) and providing safe places and tools youth could use to practice self-calming skills introduced within the groups. All of the interventions noted above were in addition to all of the services described previously for the TAU program.

General trauma training. The first step in the intervention was to provide general training on psychological trauma for all staff (including juvenile correctional officers, unit administrators, social workers, psychologists, nursing staff, teachers, facility superintendents, and deputies of security and programming) with a primary responsibility on the unit or who provided services to the unit for each of the facilities where the intervention was to be implemented. Four separate full-day trainings occurred between September 1, 2007 and December 30, 2007 and were provided by the first author. Facility staff were required to attend the one day training as a unit team so that the process of developing the environmental changes and practices could begin with brainstorming ways to integrate trauma-focused interventions onto the unit. The training was designed to provide information on childhood trauma and its prevalence in juvenile justice involved youth; the relationship between traumatic events/traumatic reactions and dysregulated emotions and behaviors in youth;

potentially traumatizing practices that occur in juvenile justice facilities; an overview of positive coping strategies youth could use; and planning for and design of trauma-sensitive environments.

TARGET intervention. TARGET is a 10-session manualized treatment and prevention intervention for traumatized adolescents and adults. TARGET teaches a seven-step sequence of skills for processing and managing trauma-related reactions to current stressful experiences (e.g., PTSD symptoms, traumatic grief, survivor guilt, shame, interpersonal rejection, and existential alienation). The skills attained are summarized by the acronym “FREEDOM”: self-regulation via Focusing; trauma processing via Recognizing current triggers, Emotions, and cognitive Evaluations; and strength-based reintegration by Defining core goals, identifying currently effective Options, and affirming core values by Making positive contributions. TARGET is designed to maximize a person’s awareness of the present moment, thereby reducing mental health symptoms commonly associated with trauma, such as rumination, panic, or dissociation (Ford & Russo, 2006).

TARGET is comprised of three main therapeutic components. First, education helps the individual understand the changes that neurobiological research indicates occur in PTSD. This provides participants with an understanding of how PTSD is an adaptive adjustment to threat in the brain that is maladaptive for life circumstances that do not involve danger. Specifically, visual aides are used to show participants how traumatic stress can alter the connecting relationships between key areas in the brain’s emotion system (the amygdala, referred to as “the alarm center” for teaching purposes and the hippocampus, referred to as the “memory filing/retrieval center”) and executive system (the prefrontal cortex, referred to as “the thinking center”). This information helps youth understand why they feel and react the way they do and provides information on how to regain control of their PTSD symptoms, which leads to the second component: teaching and guided practice of the FREEDOM skills. These skills were first used to help the client reexamine recent stressful experiences, but can also be used to understand trauma memories. Each of the FREEDOM skills is designed to enhance awareness of “alarm” reactions while also enabling youth to recognize their capacity to reset the brain’s alarm by thinking in a highly focused (but not hypervigilant) manner. The last component is an experiential exercise where the client makes a timeline of his or her life. This helps to organize autobiographical memory (including but not primarily focusing on traumatic events), which often has become fragmented (and therefore prone to intrusive re-experiencing and negative self-attributions) for traumatized youth (Ford, Steinberg, Hawke, Levine, & Zhang, 2012) and adults (Ford, Steinberg, & Zhang, 2011; Frisman, Ford, Lin, Mallon, & Chang, 2008).

TARGET was selected as a treatment protocol because it included a training component for all staff and had shown some promise in juvenile detention settings in Connecticut (Ford & Hawke, 2012). Results from a study funded by the Office of Juvenile Justice and Delinquency Programs showed that TARGET was more effective than relational therapy in decreasing PTSD symptoms and remission from PTSD (77% in TARGET versus 53% in relational therapy) at the end of 12 therapy sessions. In this study, TARGET was used as an individual therapy for PTSD with 61 delinquent girls (Ford et al., 2012). A field study found that rates of seclusion and restraint dropped dramatically in Connecticut’s juvenile detention centers following implementation of the four-session version of TARGET (Ford & Hawke, 2012).

An important aspect of the TARGET intervention in juvenile justice facilities is the extension of the FREEDOM skills from the educational/therapeutic groups into the entire milieu (Ford & Hawke, in press). As is proposed by the developers, in January of

2008 TARGET training was provided to all staff caring for youth as well as administrators at each of the intervention sites so that all personnel could utilize and reinforce the FREEDOM skills on a 24/7 basis when the greatest amount of learning and generalization is likely to take place.

Environmental modifications. Environmental modifications were suggested in the one-day general trauma training for staff on the intervention programs. Each of the intervention unit teams worked to develop a plan for these modifications that would assist in reducing noise and other triggers and would allow spaces for youth to practice coping skills. Each of the unit teams was permitted, with guidance and support from central office administrators, to implement these plans immediately following the training. Though each of the plans differed based upon the creativity of the unit team, environmental changes across units included painting walls in the main units in warm soothing colors, purchasing comfortable furniture to encourage social interaction between staff and youth, installing carpet and sound panels to reduce noise, and conversion of a youth room into a “comfort room.” A comfort room is a comfortable quiet room that could be used to practice self-calming and relaxation skills. The youth were asked to name the rooms and variously referred to them as the “chill zone,” “Zen space,” or “comfy spot.” There were a variety of tools youth could use in this room, including weighted blankets, fidget toys, video rockers, music, and multiple other sensory-based tools. All tools were reviewed and approved for use by staff and administration and practices and procedures were developed to ensure safety and monitoring for appropriate use.

Design and Procedure

This study was a program evaluation of an intervention that was piloted by the State Department of Youth Services and all procedures were reviewed and approved by the State Department of Youth Service and by the State Department of Health Institutional Review Board. The youths’ legal guardians were informed of the program, provided with a written description of the program and its requirements, and asked to consent to participation in the evaluation portion of the program by the social work or psychology staff on the units. The youth were then similarly approached by the psychologist or social worker on the unit; the study was explained verbally as well as in writing and youth under age 18 were asked to assent while youth age 18 or older were asked to consent to the evaluation portion of the program.

The intervention was provided to all youth on the intervention units regardless of whether or not they specifically assented to the use of their data in the study. The youth and legal guardians were both made aware that they could withdraw their consent/assent to allow the youth data to be used at any time and that it would not affect the youth’s ability to be provided treatment services or participate in the group. Youth and legal guardians of youth on the TAU units were also asked to assent and consent to the assessments. All youth approached regarding the study and their legal guardians consented/assented to the study. This resulted in a total of 82 youth who participated in initial data collection. Eight of the youth for whom initial data was collected were released prior to the second data collection point; thus, only the 74 youth who were available for both data collection points are included in this study.

Beginning in April of 2008, baseline evaluations (T1) were administered to all youth on the intervention and TAU units at initiation of the study. These baseline evaluations continued as a standard part of the intake process as new youth were admitted to the

unit over the next five months. Instrument administration took between 60 and 90 min. Reassessments occurred for each youth three months following initial assessment (T2) for both the intervention and TAU groups. This interval was preselected to ensure adequate time for youth to benefit from the intervention and participate in the group. Though more data collection points for clinical data were available, the focus of this study was the first nine months, during which we ensured that each youth had at least one three-month follow-up. Unit psychologists and social workers conducted all assessments with youth individually in a private room and assisted youth with low literacy by reading the questions and response options when necessary. For both treatment programs, instruments were scored with electronic scoring systems to reduce error and clinical reports were forwarded to clinicians to use in treatment with youth.

Measures

Trauma exposure and PTSD symptoms measures. Seven measures were utilized to evaluate participants' progress in treatment. The Mood and Feelings Questionnaire (MFQ) (Angold, Costello, Pickles, & Winder, 1987) is a 13-item self-report screening instrument for detecting symptoms of depressive disorders in children and adolescents 6–17 years of age. The Self-Report for Childhood Anxiety Related Disorders (SCARED; Birmaher, Khetarpal, Cully, Brent, & McKenzie, 1995) is a 41-item self-report screening instrument for detecting symptoms of anxiety disorders in children and adolescents 8 years of age and older. The Trauma Events Screening Inventory (Ford & Rogers, 1997) is a 15-item interview that assesses a child's experience of a variety of traumatic events. The UCLA PTSD Reaction Index (RI; Steinberg, Brymer, Decker, & Pynoos, 2004) is a 48-item scale that assesses a child's exposure to 26 types of traumatic events and assesses DSM-IV PTSD diagnostic criteria. The Ohio Scales (OS; Ogles, Melendez, Davis, & Lunnen, 2001) are a 48-item scale that assesses problem severity, functioning, satisfaction with services, and hopefulness. The Generalized Expectancies for Negative Mood Regulation (NMR; Catanzaro & Mearns, 1990) is a 30-item scale that assesses an individual's ability to regulate their negative moods (i.e., when an individual is in a bad mood, they can do something to make themselves feel better). Finally, the Massachusetts Youth Screening Instrument (MAYSI-2) (Grisso & Barnum, 1998) is a 52-question self-report measure designed to identify youth 12 to 17 years old in juvenile justice facilities who have special mental health needs. All instruments used in this study have been used in past studies of trauma and/or child and adolescent mental health.

Seclusion, restraint, and verbal threats measures. In addition to measures designed to assess posttraumatic stress reactions and mood symptoms, youth incident reports were used to measure frequency of seclusion, physical response (restraint), and threatening behavior by youth.

Data Analysis

For site-specific data, paired samples *t*-tests were used to examine the difference between time points (T1–T2), which were approximately three months apart for all youth. For individual-level data, a repeated measures analysis was conducted to examine comparative effects between the two alternative treatments on a number of resiliency and psychiatric measures (e.g., problem severity, hope, functioning, PTSD, depression, anxiety).

Results

History of Trauma or Adversity

The most common types of abuse experienced were physical abuse (49%), sexual abuse (44%), and emotional abuse (28%). The most common types of adversity experienced were separation from loved ones (73%), having a family member in jail (63%), and witnessing people using illicit drugs (58%).

Intervention Versus Treatment as Usual Analysis

Use of seclusion and physical response. To examine trends in the use of safety interventions, May-August 2007 data (preintervention) was compared to data collected between September 2007 (immediately following initial 1 day training) and December 2008. As evidenced by Figure 1, while both groups used physical response (restraint) at the same rate between May and August of 2007, over time the TAU group used physical response (restraint) at a rate five times that of the intervention group. A similar trend emerged with use of seclusion and the number of menacing threats made by youth (which appear strongly correlated; Figures 2 and 3). As shown in Figure 2, over time the TAU group used seclusion at a rate six times that of the intervention group. Additionally, the intervention group evidenced a continued reduction in the use of seclusion for eight months following the introduction of the intervention.

Symptom and resiliency measures. As shown in Table 1, significant group by time differences were found on the hope ($F[2,72] = 8.78, p < .001$) and service satisfaction factors ($F[2, 72] = 3.81, p < .05$) of the OS, and in depression as measured by the MFQ ($F[2,72] = 3.57, p < .05$), with the intervention group experiencing significantly greater improvement over time than TAU. Significant time effects were also demonstrated on a number of measures, indicating youth noticeably improved over time in both groups. Specifically, improvements over time were noted in the problem severity ($F[2, 72] = 3.44, p < .05$) factor of the OS and the PTSD ($F[2, 72] = 3.43, p < .05$) and anxiety disorder ($F[1, 72] = 29.86, p < .001$) scales on the UCLA PTSD-RI.

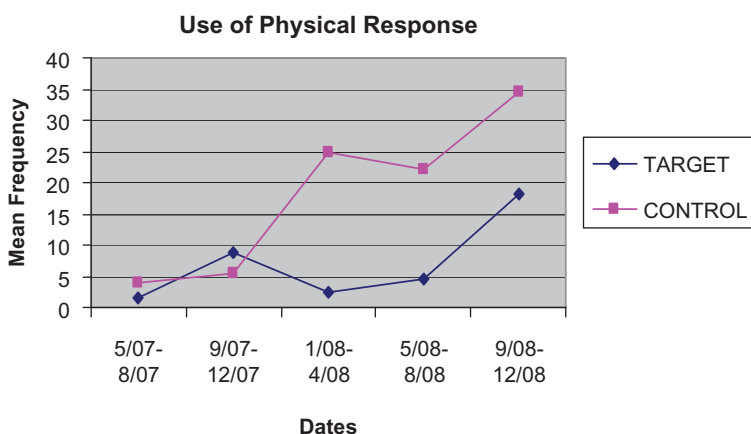


Figure 1. Use of physical response (color figure available online).

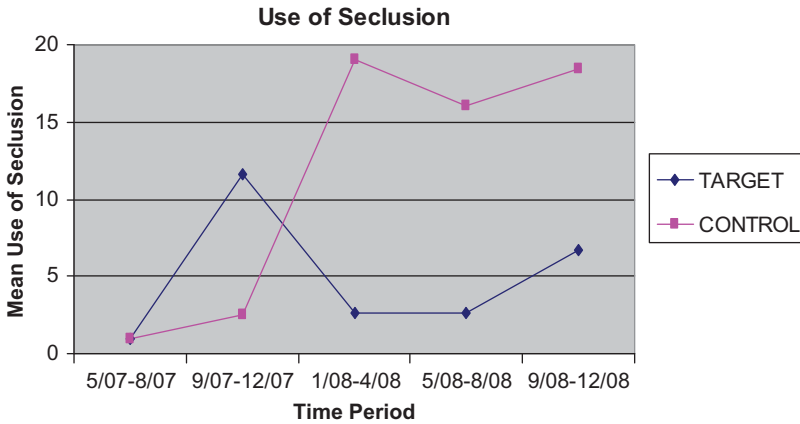


Figure 2. Use of seclusion (color figure available online).

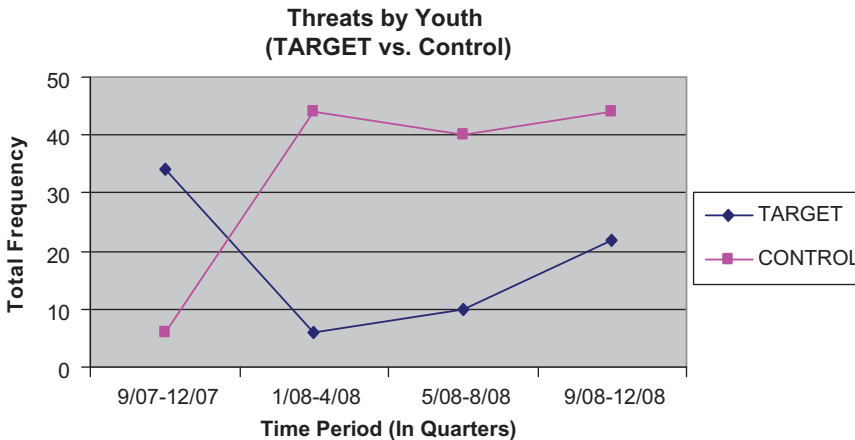


Figure 3. Threats by youth (color figure available online).

Clinical Findings

While not all findings were statistically significant, most units evidenced clinically significant improvements in core treatment domains when comparing mean scores to the diagnostic clinical cutoff score (see Figure 4). First mention Figure 4. The intervention group demonstrated superior clinical outcomes when compared to TAU on scores for depression and perceptions of hope and optimism (clinical cutoff scores are denoted by the **bold line** on each graph). Mean depression scores on the MFQ for the intervention group reduced over time ($M = 8.62$), while the TAU group experienced an increase ($M = 10.35$). The MFQ diagnostic cutoff score is 8, suggesting the intervention reduced depression symptoms to a level close to the diagnostic cutoff in the intervention group. Symptoms of anxiety reduced significantly for both groups. The mean scores on the SCARED for the intervention ($M = 12.32$) and TAU ($M = 18.13$) reduced over time to levels far below the diagnostic cutoff score of 25. PTSD symptoms also improved over time in both groups. Finally, improvements in youths' perceptions of hope and optimism were higher in the

Table 1
Preintervention to postintervention by time interactions on outcome measures

Measure (Source Scale)	T1	T2	Group F	Time F	Group vs. Time F
<i>Problem Severity (OS)</i>					
Intervention (N = 38)	39.12 (29.01)	32.23 (21.34)	.17	3.44*	.00
TAU (N = 36)	36.56 (21.52)	29.62 (22.58)			
<i>Hope (OS)</i>					
Intervention	13.33 (4.80)	17.26 (4.96)	.58	2.23	8.78**
TAU	16.00 (4.00)	14.70 (4.47)			
<i>Service Satisfaction (OS)</i>					
Intervention	15.47 (6.82)	19.80 (3.87)	.75	3.44	3.81*
TAU	16.59 (5.04)	16.37 (5.84)			
<i>Functioning (OS)</i>					
Intervention	59.35 (10.35)	57.82 (12.87)			
TAU	56.99 (10.74)	51.22 (19.12)	1.47	2.23	1.47
<i>Negative Mood Regulation (NMR)</i>					
Intervention	91.61 (10.64)	92.47 (10.84)	.58	.33	.43
TAU	96.66 (12.84)	94.68 (14.56)			
<i>PTSD (UCLA PTSD-RI)</i>					
Intervention	45.70 (14.71)	41.35 (20.72)	.04	3.43*	.25
TAU	41.35 (20.72)	38.73 (19.91)			
<i>Depression (MFQ)</i>					
Intervention	9.81 (6.37)	8.62 (5.35)	.06	.71	3.57*
TAU	7.25 (3.90)	10.35 (7.59)			
<i>Anxiety Disorder (UCLA PTSD-RI)</i>					
Intervention	28.48 (16.02)	12.32 (16.17)	2.31	29.86**	.19
TAU	31.86 (13.28)	18.13 (20.15)			
<i>Panic Disorder (SCARED)</i>					
Intervention	5.42 (4.41)	4.71 (4.81)	1.24	.09	1.06
TAU	5.95 (4.46)	7.28 (5.72)			
<i>Generalized Anxiety (SCARED)</i>					
Intervention	7.50 (4.58)	8.42 (4.60)	.18	.10	1.39
TAU	8.85 (4.60)	8.33 (4.57)			
<i>Separation Anxiety (SCARED)</i>					
Intervention	5.71 (2.23)	5.78 (3.11)	.62	.08	.02
TAU	6.42 (3.31)	6.66 (4.02)			
<i>Social Anxiety (SCARED)</i>					
Intervention	5.64 (2.06)	5.71 (3.85)	.23	.05	.12
TAU	5.38 (2.88)	5.04 (3.74)			
<i>School Avoidance (SCARED)</i>					
Intervention	1.28 (1.32)	1.42 (2.37)	1.06	.04	.04
TAU	1.95 (1.60)	1.95 (2.23)			

* $p < .05$. ** $p < .001$.

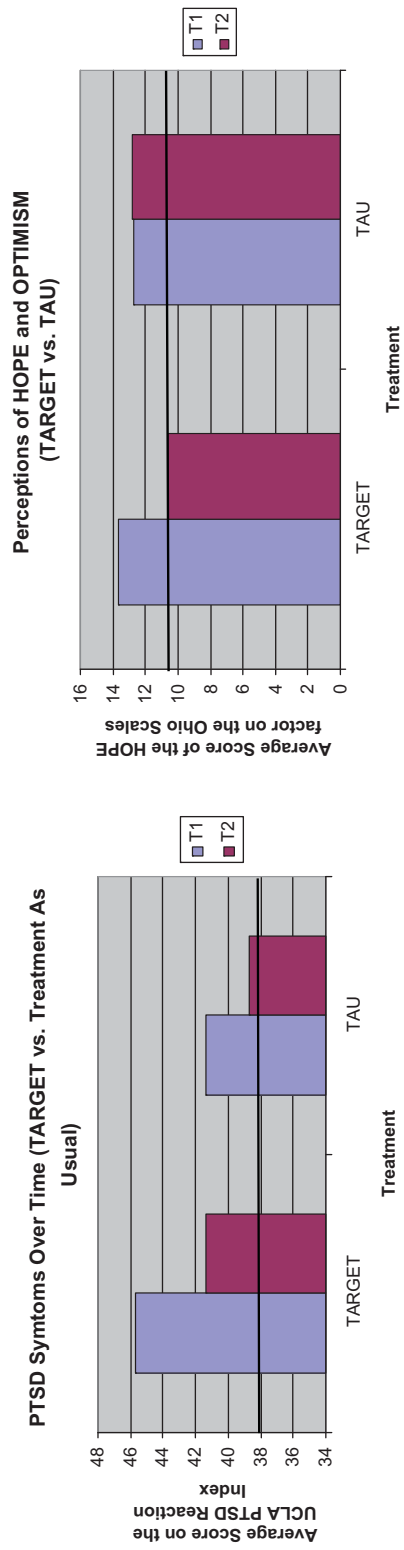


Figure 4. Improvements depression, anxiety, PTSD, and perception of hope and optimism over time (color figure available online).

intervention group ($M = 10.62$) over time as compared to TAU ($M = 12.80$). The OS hope measure is reverse scored, meaning lower scores suggest improvement.

Discussion

Preliminary results suggest that a trauma-focused intervention strategy inclusive of training for staff, implementation of a specific trauma focused group treatment, and environmental modification was superior to the TAU program in producing durable improvements in perceived hope and optimism and depression over the course of three months. Additionally, participants receiving the trauma-focused intervention had greater clinical improvement in depression, anxiety, and hope and optimism as compared to TAU when examining clinical cutoff scores. One indicator that also is important to consider from a consumer perspective is service satisfaction. On the service satisfaction subscale of the OS, youth on the intervention units expressed significantly more satisfaction with the mental health services they were receiving in comparison to youth on the TAU unit who demonstrated no changes in service satisfaction. Although not specifically a clinical indicator, it may suggest that youth felt staff was more responsive to their needs and that the interventions used were helpful.

Though clinical indicators were targeted in this study, other important indicators were the use of seclusion and physical response (restraint). These are always targets for reduction across both juvenile correctional programs and residential facilities. Seclusion and restraint are not only harmful to youth but also have a negative impact on the staff who must respond. This study's results related to seclusion, restraint, and youth threats toward staff suggest that implementation of a milieu-based trauma-focused intervention may have value in assisting juvenile correctional facilities in reducing the use of seclusion and restraint while also reducing the incidents of youth threats. It is believed that these behavioral outcomes are at least partially related to the youth acquiring increased ability to regulate themselves behaviorally and emotionally. It is possible that through training and assisting youth in using effective coping strategies and regulation techniques, the staff also improved their ability to regulate their own emotions and behaviors, which is an equal factor in determining restraint and seclusion use. Though staff regulation skills were not a part of this study, informal interviews with staff working on the intervention units support this hypothesis. Many staff indicated that what they liked about being on the unit was that through the training they had many more "tools" to use, which made working with the youth more rewarding. They could spend less time writing in seclusion logs and more time engaging the youth in activities. Some even commented that they were able to use what they learned in their personal lives outside of the facility. Informal comments from the youth suggested that they also liked the staff more, often indicating they were "more fair." This may be what is contributing to the increase in service satisfaction scores for the youth.

Another element that may have contributed to the success of the program was that by design staff traditionally referred to as "treatment" or "program" staff and staff who have more frequently been referred to as "security" staff were trained and had to work together to develop the intervention units based upon what they had learned in training. The skills youth were learning in group were also taught to the staff responsible for their care and supervision so that these skills could be reinforced when youth were not in group. The environmental modifications were undertaken as a team project, with all staff, youth, and administrators sharing ideas about placement of the comfort rooms, design of the units, and items to be used.

Limitations

Given that the study was a program evaluation that involved multiple interventions introduced simultaneously, the specific components that were effective in producing outcomes could not be determined. However, it is clear that training alone, which the TAU unit staff received, is insufficient to produce decreases in the use of safety measures and youth threatening behavior. Future studies will be necessary to better evaluate the incremental impact of a trauma-focused group intervention, continued staff training, and environmental modifications.

Although this study documented reductions in threatening and disruptive behavior by youth and the necessity for staff intervention while still incarcerated, youth were not followed after their release to document whether their subsequent histories showed reduced delinquent behaviors and reductions in recidivism as a function of the skills acquired. This will be an important next step in evaluating the long-term community impact of implementing such an intervention. Other limitations to the study include its relatively small sample size. In addition, because there were only seven females in the study, no comparative gender analyses were possible. At least one of the scales for the selected instruments, the functioning scale of the OS, was geared for a community sample and has limited applicability to incarcerated youth. The functioning scale includes items that are not relevant to detained youth, such as improved dating relationships, earning money, and participating in hobbies, all activities geared toward a community sample. These items artificially reduced the functioning scores for study participants and therefore should be interpreted with caution. Despite these limitations, this study supports the use of a multimodal trauma-focused intervention within a correctional setting and demonstrates that implementing such a system is possible within a correctional environment. It is still extremely important to find ways to replicate and refine these findings with such a population, though randomized controlled studies with dually protected populations (children and the incarcerated) can prove challenging.

Acknowledgments

The authors would like to thank the many staff and youth involved in this study.

References

- Abram, K. M., Teplin, L. A., Charles, D. R., Longworth, S. L., McClelland, G. M., & Dulcan, M. K. (2004). Posttraumatic stress disorder and trauma in youth in juvenile detention. *Archives of General Psychiatry*, *61*(4), 403–410.
- Angold, A., Costello, E. J., Pickles, A. & Winder, F. (1987). *The development of a questionnaire for use in epidemiological studies of depression in children and adolescents*. London: Medical Research Council Child Psychiatry Unit.
- Becker, S., & Kerig, P. (2011). Posttraumatic stress symptoms are associated with the frequency and severity of delinquency among detained boys. *Journal of Clinical Child and Adolescent Psychology*, *40*(5), 765–771.
- Birmaher, B., Khetarpal, S., Cully, M., Brent, D., & McKenzie, S. (1995). *Screen for Child Anxiety Related Disorders (SCARED)*. Pittsburgh, PA: Western Psychiatric Institute and Clinic, University of Pittsburgh.
- Catanzaro, S. J., & Mearns, J. (1990). Measuring generalized expectancies for negative mood regulation: Initial scale development and implications. *Journal of Personality Assessment*, *54*, 546–563.

- Egeland, B., Yates, T., Appleyard, K., & van Dulmen, M. (2002). The long-term consequences of maltreatment in the early years: A developmental pathway model to antisocial behavior. *Children's Services: Social Policy, Research, and Practice*, 5, 249–260.
- Ford, J. D., Chapman, J., Mack, M., & Pearson, G. (2006). Pathways from traumatic child victimization to delinquency: Implications for juvenile and permanency court proceedings and decisions. *Juvenile and Family Court Journal*, 57(1), 13–26.
- Ford, J. D., & Hawke, J. (2012). Trauma affect regulation psychoeducation group and milieu intervention outcomes in juvenile detention facilities. *Journal of Aggression, Maltreatment and Trauma*, 21, 365–384.
- Ford, J. D., & Rogers, K. (1997, November). *Empirically-based assessment of trauma and PTSD with children and adolescents*. Paper presented at the annual convention of the International Society for Traumatic Stress Studies, Montreal, Quebec, Canada.
- 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.
- Ford, J. D., Steinberg, K., Hawke, J., Levine, J., & Zhang, W. (2012). Randomized trial comparison of emotion regulation and relational psychotherapies for PTSD with girls involved in delinquency. *Journal of Clinical Child and Adolescent Psychology*, 41(1), 27–37.
- Ford, J. D., Steinberg, K. L., & Zhang, W. (2011). A randomized clinical trial comparing affect regulation and social problem-solving psychotherapies for mothers with victimization-related PTSD. *Behavior Therapy*, 42(4), 560–578.
- Frisman, L., Ford, J., Lin, H.-J., Mallon, S., & Chang, R. (2008). Outcomes of trauma treatment using the TARGET Model. *Journal of Groups in Addiction and Recovery*, 3(3–4), 285–303.
- Garland, A. G., Hough, R. L., McCabe, K. M., Yeh, M., Wood, P. A., & Aarons, G. A. (2001). Prevalence of psychiatric disorders in youths across five sectors of care. *Journal of the American Academy of Child and Adolescent Psychiatry*, 40, 409–418.
- Grisso, T., & Barnum, R. (1998). *Massachusetts Youth Screening Instrument (MAYSI): Preliminary manual and technical report*. Worcester, MA: University of Massachusetts Medical School.
- Mersky, J. P., & Reynolds, A. J. (2007). Child maltreatment and violent delinquency: Disentangling main effects and subgroup effects. *Child Maltreatment*, 12, 246–258.
- McMackin, R. A., Leisen, M. B., Sattler, L., Krinsley, K., & Riggs, D. S. (2002). Preliminary development of trauma-focused treatment groups for incarcerated juvenile offenders. *Journal of Aggression, Maltreatment and Trauma*, 6(1), 175–199.
- National Association of State Mental Health Program Directors and National Technical Assistance Center for State Mental Health Planning. (2004). *The damaging consequences of violence and trauma: Facts, discussion points, and recommendations for the behavioral health system*. Washington, DC: U.S. Department of Health and Human Services.
- Ogles, B., Melendez, G., Davis, D., & Lunnen, K. (2001). The Ohio Scales: Practical outcome assessment. *Journal of Child and Family Studies*, 10(2), 199–212.
- Putnam, F. (2006). The impact of trauma on child development. *Juvenile and Family Court Journal*, 57, 1–11.
- Riggs Romaine, C. L., Sevin-Goldstein, N. E. S., Hunt, E., & DeMatteo, D. (2011). Traumatic experiences and juvenile amenability: The role of trauma in forensic evaluations and judicial decision making. *Child and Youth Care Forum*, 40, 363–380.
- Smith, D. K., Leve, L. D., & Chamberlain, P. (2006). Adolescent girls' offending and health-risking sexual behavior: The predictive role of trauma. *Child Maltreatment*, 11, 346–353.
- Steinberg, A., Brymer, M., Decker, K., & Pynoos, R. (2004). The University of California at Los Angeles Post-traumatic Stress Disorder Reaction Index. *Current Psychiatry Reports*, 6, 96–100.
- Teplin, L. A., Abram, K. M., McClelland, G. M., Dulcan, M. K., & Mericle, A. A. (2002). Psychiatric disorders in youth in juvenile detention. *Archive of General Psychiatry*, 59, 1122–1143.
- Veysey, B. M. (2008). Mental health, substance abuse, and trauma. In R. D. Hoge, N. G. Guerra & P. Boxer (Eds.), *Treating the juvenile offender* (pp. 210–238). New York: Guilford Press.

- Wasserman, G. A., McReynolds, L. S., Fisher, P. W., & Lucas, C. P. (2002). Psychiatric disorders in incarcerated youths. *Journal of the American Academy of Child and Adolescent Psychiatry*, 42(9), 1011.
- Wolpaw, J. W., and Ford, J. D. (2004). *Assessing exposure to psychological trauma and post-traumatic stress in the juvenile justice population*. Los Angeles: National Child and Traumatic Stress Network. Retrieved from <http://www.nctsn.org/content/assessing-exposure-psychological-trauma-and-post-traumatic-stress-juvenile-justice-populatio>
- Wood, J., Foy, D. W., Goguen, C. A., Pynoos, R., & James, C. B. (2002). Violence exposure and PTSD among delinquent girls. *Journal of Aggression, Maltreatment and Trauma*, 6(1), 109–126.
- Wood J., Foy, D., Layne, C., Pynoos, R., & Boyd James, C. (2002). An examination of the relationships between violence exposure, posttraumatic stress symptomatology, and delinquent activity: An “ecopathological” model of delinquent behavior among incarcerated adolescents. *Journal of Aggression, Maltreatment and Trauma*, 6(1), 127–147.