

**The value of implementing TARGET within a trauma-informed Juvenile Justice Setting**

Journal:	<i>Journal of Child &amp; Adolescent Trauma</i>
Manuscript ID:	WCAT-2011-0030.R1
Manuscript Type:	Original Article
Keywords:	Adolescent, Intervention, Program Evaluation, Trauma, Juvenile Justice

SCHOLARONE™  
Manuscripts

Abstract

This article describes a pilot study of a trauma-focused intervention for youth incarcerated for felony-level offenses in a juvenile justice setting. 74 youth in five Mental Health Units were treated with Treatment as Usual (TAU) versus Trauma Affect Regulation: Guide for Education and Therapy (TARGET); 38 received TARGET, 36 TAU. Those centers applying TARGET also received facility-wide trauma-informed milieu training for line staff as well as for therapists. Results showed significant reductions in threatening behavior by youth, physical restraints, and seclusion for the TARGET group when compared with the TAU group. TARGET youth also reported greater hope and optimism and reductions in depression.

## Pilot of a Trauma-Focused Intervention in a Juvenile Justice Setting

### Introduction

It is well established that justice-involved adolescents report high rates of past and current child maltreatment and trauma and that most young people in the system have substance abuse and mental health problems (Veysey, 2008). However, trauma-informed mental health treatments with a strong evidence base are not yet available for this population. Referral for trauma treatment for youth charged with serious offenses is not routine, at least in part because the effectiveness of such treatment on reducing future delinquent behavior and recidivism has not been evaluated.

### Trauma/Adversity/Maltreatment Exposure

Up to 90% of justice-involved youth experience emotional and behavioral difficulties linked to multiple childhood traumas and losses (Garland et al, 2001; Teplin et al., 2002; Wasserman et al., 2002). The prevalence of posttraumatic stress disorder in juvenile justice populations is eight times higher than in a community sample of similar peers (Wolpaw & Ford, 2004; Abram et al, 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 be 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 Romaine, Sevin Goldstein, Hunt, & DeMatteo, 2010). The

1  
2  
3 likelihood that a youth will be arrested as a juvenile is increased by 53% when that child has  
4  
5 experienced child abuse and neglect (NASMHPD/NTAC, 2004).  
6  
7

8 Rates of current Posttraumatic Stress Disorder diagnosis in juvenile offender populations  
9  
10 vary widely in the research from 24% to 51% among males and 49% among females in this  
11  
12 population (McMackin, Leisen, Sattler, Krinsley, & Riggs, 2002). One 2002 study found that  
13  
14 52% of the female juvenile offenders in their sample could be considered PTSD positive (Wood,  
15  
16 Foy, Goguen, Pynoos, & James, 2002). Even youth in the justice system who cannot be  
17  
18 diagnosed with PTSD have likely had a traumatic experience which can influence their behavior  
19  
20 and thinking.  
21  
22  
23

24 These youth also present more severe posttraumatic stress symptoms. A more in-depth  
25  
26 evaluation of these incarcerated youth revealed histories of extensive exposures to violent death and  
27  
28 frequent disturbing grief reactions (Wood, Foy, Layne, Pynoos, & James, 2002). These numbers are  
29  
30 compounded by other statistics which show that upwards of 65-70% of youth within the juvenile  
31  
32 justice system present with a diagnosable mental illness, and 20-25% of the youth have such a  
33  
34 significant mental illness that it impairs their behavioral and emotional functioning (Shufelt &  
35  
36 Cocozza, 2006).  
37  
38  
39

#### 40 41 **Prior Treatment Studies** 42

43 A common approach to dealing with delinquent youth has been to focus on addressing  
44  
45 “risk factors.” Risk factors are either static, which usually means they have happened in the past  
46  
47 and are not changeable (such as having committed your first crime at age ten), or dynamic  
48  
49 “changeable” variables like hanging out with an antisocial peer group. Six primary risk factors  
50  
51 noted across the literature are: 1) antisocial/pro-criminal attitudes, values, and beliefs, 2) pro-  
52  
53  
54  
55  
56  
57  
58  
59  
60

1  
2  
3 criminal associates, 3) temperament and personality factors, 4) a history of antisocial behavior,  
4  
5  
6 5) family factors, and 6) low levels of educational, vocational or financial achievement.  
7

8 The most effective programs take a skills-based and cognitive behavioral approach to  
9  
10 address these areas and include a focus on helping the youth develop anger management and  
11  
12 coping skills in high-risk situations, teaching and reinforcing the development of positive  
13  
14 relationships and communication, reducing conflict through problem solving and providing  
15  
16 alternatives to maladaptive coping strategies like substance use. While many of these areas are  
17  
18 addressed through several different types of interventions within a juvenile justice setting, most  
19  
20 approach the topic at a topographical level (addressing the behavior currently exhibited such as  
21  
22 “anger”) without recognizing or addressing the root of the behavior, which is often the youth’s  
23  
24 complex trauma history (violence perpetrated against the youth in their own home or  
25  
26 community). Many of these behaviors outside of the correctional environment can be viewed as  
27  
28 “survival” coping strategies which were developed as way of “surviving” in often unsafe  
29  
30 environments or dealing with the effects of trauma symptoms like hyperarousal. Many of these  
31  
32 behaviors may have developed over the course of a youth’s lifetime, beginning at a young age, to  
33  
34 help them deal with the violence in their homes and communities.  
35  
36  
37  
38  
39

40  
41 A review of proven treatment programs for the juvenile offender listed Multisystemic  
42  
43 Therapy, Functional Family Therapy, Multidimensional Treatment Foster Care, and Aggression  
44  
45 Replacement Training (Guerra, Kim, & Boxer, 2008). A focus on the youth’s history of trauma  
46  
47 exposure and the symptoms and behaviors associated with this exposure is not central to any of  
48  
49 these treatment programs.  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

### **Prior Trauma Treatments used in Juvenile Justice Settings**

McMackin et al. piloted a self-paced intervention with incarcerated youth based on education, self-paced exposure, and expressive arts techniques that was well received by youth but contained no outcome data (2002). Ahrens and Rexford conducted a Cognitive Processing Therapy intervention for incarcerated adolescents with PTSD that resulted in significant reductions in anxiety, depression, and posttraumatic symptoms when compared to the wait-list control group, but this study lacked data about youth behaviors while incarcerated and after release (2002). Soberman, Greenwald and Rule investigated EMDR with conduct disordered youth in residential treatment programs and found trends for reduction of posttraumatic symptoms and significant reductions in problem behaviors at two-month follow up when compared with the control group (2002). Riggs Romaine et al. write that although CBT-based treatments for traumatic exposure reduce posttraumatic symptoms, the effect of trauma treatments on other outcomes, such as current or future offending, has not been evaluated. “It remains unclear whether the treatment of trauma-related symptoms from victimization and exposure to trauma reduces the risk of re-offense (Riggs Romaine, Sevin Goldstein, Hunt, & DeMatteo, 2010, p.4). Ford et al, in press, conducted a randomized clinical trial comparing the outcomes of an affect regulation therapy TARGET versus a relational supportive therapy (Enhanced Treatment as Usual, ETAU) with girls meeting criteria for full or sub-clinical PTSD who were involved in delinquency. Both TARGET and ETAU demonstrated large effects for pre-post change in the primary outcome, PTSD symptoms, and small to medium effects for change in anxiety, depression, anger, and posttraumatic cognitions, for both interventions. Treatment by time interactions showed small to medium effects favoring TARGET for change in PTSD (intrusive reexperiencing and avoidance) and anxiety symptoms, posttraumatic cognitions,

1  
2  
3 and affect regulation, and for ETAU in anger and dispositional hope. Results provide support for  
4  
5 TARGET as a potentially efficacious therapy for PTSD among delinquent girls, highlighting the  
6  
7 potential importance of  
8  
9  
10 addressing affect dysregulation. It is similarly believed that this same effect will be evidenced in  
11  
12  
13 boys

### 14 **TARGET implementation**

15  
16  
17 In order to expand treatment programs that would assist juvenile justice involved youth in  
18  
19 managing their trauma reactions and the associated behaviors, the Ohio Department of Youth  
20  
21 Services introduced and piloted the 12-session group treatment protocol, Trauma Affect  
22  
23 Regulation: Guide for Education and Training (TARGET). TARGET was selected as a  
24  
25 treatment protocol because it included a training component for all staff and had shown some  
26  
27 promise in juvenile detention settings in Connecticut in improving prosocial behaviors and  
28  
29 reducing behavioral incidents. In addition TARGET was the only milieu-based treatment  
30  
31 program that had been piloted for use within JJ settings. TARGET is designed to help youths  
32  
33 (and adults who care for and supervise them) understand how trauma has primed their brains and  
34  
35 bodies to react in very primitive ways that have essentially reduced their behavior to reactive  
36  
37 survival responses. The goal of the intervention is to teach them that they can control these  
38  
39 responses and learn to respond more appropriately to current stressors. It was the goal of this  
40  
41 pilot to determine if working with youth and staff to understand the impact of trauma and  
42  
43 provide skills to improve their ability to cope with trauma triggers and stressors would assist in  
44  
45 reducing post traumatic stress symptoms, and behavioral incidents.  
46  
47  
48  
49  
50  
51  
52

53 According to the Ohio Department of Youth Services (ODYS) statistics, in 2006 there  
54  
55 were 3,171 youth between the ages of 11 and 20 in Ohio Department of Youth Services (ODYS)  
56  
57  
58  
59  
60

1  
2  
3 facilities. Consistent with national studies of rates of mental illness in juvenile justice involved  
4  
5 youth, ODYS estimates suggest that a majority of the youth in ODYS custody have some mental  
6  
7 health issue as evidenced by screening procedures conducted at intake. A little over 70% have  
8  
9 had previous contact with the mental health system, and nearly 40% see a mental health  
10  
11 professional each month to assist in managing the symptoms of a mental disorder (Marrow,  
12  
13 2009). In addition, a significant portion of a DYS worker's individual caseload consists of youth  
14  
15 with ongoing, identified mental health issues. To this end, DYS approached the Ohio Department  
16  
17 of Mental Health (ODMH), which houses a task force on childhood trauma, to collaborate on the  
18  
19 implementation and evaluation of TARGET, a psycho-education program that works to reduce  
20  
21 the impact of trauma and increase adolescent well-being through the implementation of a group  
22  
23 milieu-based curriculum. The TARGET evaluation study was developed with three primary  
24  
25 purposes:  
26  
27  
28  
29  
30  
31  
32

- 33 ● to explore the effectiveness of a trauma focused intervention with youth in Ohio's  
34 justice facilities,
- 35
- 36 ● to establish outcomes and impacts for TARGET, as a method of accountability,
- 37
- 38 ● to explore the impact of the corrections milieu on adolescent outcomes.
- 39  
40  
41  
42

## 43 **Methods**

### 44 *Participants*

45  
46 The TARGET project included 74 youth 11-19 years of age who resided in one of five  
47  
48 mental health units at ODYS facilities. The mental health units are specially staffed and  
49  
50 programmed housing units designed to meet the specific needs of youth diagnosed with  
51  
52 significant mental health disorders who have demonstrated a need for more intensive  
53  
54  
55  
56  
57  
58  
59  
60



1  
2  
3 programming. All youth are screened for mental illness at intake and are referred to the mental  
4  
5 health unit based on the severity of their symptoms and behavioral problems. Adolescents  
6  
7 housed on the mental health units come from all regions of Ohio, including rural, suburban, and  
8  
9 urban areas. All adolescents residing at a TARGET site participated in the intervention and were  
10  
11 asked to voluntarily take part in the evaluation. Participants were informed that they were not  
12  
13 required to participate in the evaluation and could withdraw their consent to the evaluation at any  
14  
15 time. The Treatment as Usual Group (TAU) consisted of youth on mental health units who did  
16  
17 not receive the TARGET curriculum and staff who did not receive the specialized milieu  
18  
19 training. Thus these programs continued using their traditional milieu-based interventions which  
20  
21 did not specifically address trauma symptoms. Given that data was also collected on youth on  
22  
23 the TAU units, they were also informed that they were not required to participate in the  
24  
25 evaluation, and could withdraw their consent to the evaluation at any time.  
26  
27  
28  
29  
30

31  
32 Sample composition included 7 females and 67 males. Mean ages for both TARGET (38  
33  
34 youth) and TAU (36 youth) groups was 17.4 years. Self-reported racial identity of participants  
35  
36 was as follows: 75 % Caucasian, 23 % African American, 2% other. Most common types of  
37  
38 abuse experienced were physical abuse (49%), sexual abuse (44 %), and emotional abuse (28 %).  
39  
40 The most common types of trauma or adversity experienced were separation from loved ones  
41  
42 (73%), having a family member in jail (63%), and witnessing people use illicit drugs (58%).  
43  
44 There were no significant differences between TARGET and TAU groups on any of the  
45  
46 demographic variables.  
47  
48  
49

### 50 51 *Measures*

52  
53 The following measures were utilized to evaluate participants' progress in treatment: The  
54  
55 Mood and Feelings Questionnaire (MFQ) (Angold & Costello, 1987), a 13-item self-report  
56  
57  
58  
59  
60

1  
2  
3 screening instrument for detecting symptoms of depressive disorders in children and adolescents  
4  
5 (6-17 years of age); the Self-Report for Childhood Anxiety Related Disorders (SCARED)  
6  
7 (Birmaher, B., Khetarpal, S., Cully, M., Brent, D., & McKenzie, S. (1995) is a 41-item self-  
8  
9 report screening instrument for detecting symptoms of anxiety disorders in children and  
10  
11 adolescents 8 years of age and older; the Trauma Events Screening Inventory (TESI) (Ford &  
12  
13 Rogers, 1997), a 15-item interview that assesses a child's experience of a variety of traumatic  
14  
15 events; the UCLA PTSD Reaction Index (RI) (Pynoos, 1998), a 48-item scale that assesses a  
16  
17 child's exposure to 26 types of traumatic events and assesses DSM-IV PTSD diagnostic criteria;  
18  
19 Ohio Scales (OS) (Oogles, Melendez, Davis & Lunnen, 2001), a 48-item scale that assesses  
20  
21 problem severity, functioning, satisfaction with services, and hopefulness; the Generalized  
22  
23 Expectancies for Negative Mood Regulation (NMR) (Catanzaro & Mearns, 1990), a 30-item  
24  
25 scale which assesses an individual's ability to regulate their negative moods (i.e., when an  
26  
27 individual is in a bad mood, they can do something to make themselves feel better); and the  
28  
29 Massachusetts Youth Screening Instrument (MAYSI) (Grisso & Barnum, 1990), a 52-question  
30  
31 self-report measure designed to identify youths 12 to 17 years old in juvenile justice facilities  
32  
33 who have special mental health needs. All instruments used in this study have documented  
34  
35 strong psychometric properties, and have been used in past studies of trauma and/or child and  
36  
37 adolescent mental health.  
38  
39  
40  
41  
42  
43  
44

#### 45 46 *Staff Training*

47  
48 Implementation of the TARGET Model involved intensive training for unit and facility staff.  
49  
50 All staff (including juvenile correctional officers, unit administrators, social workers,  
51  
52 psychologists, nursing staff, the facility superintendent and deputies of security and  
53  
54 programming) with a primary responsibility on the unit or who provided services to the unit for  
55  
56  
57  
58  
59  
60

each of the facilities where TARGET was to be implemented were required to attend the trainings. The initial training was an eight-hour training designed to provide information on childhood trauma, its prevalence in juvenile justice involved youth and its relationship to the behavior these youth frequently display. It was required that facility staff attend in teams so that the process of developing the milieu program could begin with brainstorming ways to integrate trauma-focused interventions on to the unit. This training was followed by a two-day training with TARGET's developer Dr. Julian Ford to train specifically on the TARGET model and the group intervention. Clinical staff attended along with many of the juvenile correctional officers and unit administrators. Once the model was implemented on the unit, phone consultations with Dr. Ford and a consultant continued to assist in ensuring fidelity to the model.

### *Design and Procedures*

Initial evaluations were conducted by social workers and psychologist at intake to the mental health units. The Ohio Department of Health Institutional Review Board approved the evaluation prior to the start of the study and informed consent procedures were used with all youth. Youth were provided the treatment, either TARGET or TAU, based on the facility where they resided. Three facilities used the TARGET intervention, while two facilities continued with usual treatment. There was very little drop out from the study. If participants were released from the facilities, follow-up assessments were conducted by probation.

### *Intervention*

Trauma Affect Regulation: Guide for Education and Therapy or "TARGET" is a manualized treatment and prevention intervention for traumatized adolescents and adults. TARGET teaches a 7-step sequence of skills for processing and managing trauma-related

1  
2  
3 reactions to current stressful experiences (e.g., PTSD symptoms, traumatic grief, survivor guilt,  
4 shame, interpersonal rejection, and existential alienation). The skills attained are summarized by  
5 the acronym “FREEDOM”: self-regulation via Focusing (“F”); trauma processing via  
6 recognizing current triggers, emotions, and cognitive evaluations (“REE”), and, strength-based  
7 reintegration by defining core goals, identifying currently effective responses, and affirming core  
8 values by making positive contributions (“DOM”). TARGET is designed to maximize a person’s  
9 awareness of the present moment, thereby reducing mental health symptoms commonly  
10 associated with trauma--rumination, panic, or dissociation (Ford & Russo, 2006).

11  
12 TARGET has been adapted for use with many populations, including people with  
13 substance issues, low-income mothers, and juvenile offenders, and has been proven effective in  
14 these populations through several clinical and field trials (Frisman, Ford, Lin, Mallon, & Chang,  
15 2008; Ford, Steinberg, Hawke, Levine, & Zhang, in press; Ford, Steinberg, & Zhang, in press).  
16 TARGET is versatile; it can be combined with other evidence-based models and may be used in  
17 a variety of settings, both in groups or individually. It is designed to reduce posttraumatic  
18 symptoms by enhancing emotion regulation, particularly the ability to recognize and recover  
19 from distressing affects (e.g., grief, guilt, shame, and rage).

20  
21 TARGET is comprised of three main therapeutic components. The first is education,  
22 during which the changes which neurobiological research suggest occur in PTSD are explained.  
23 This is done in order to provide participants with an understanding of how PTSD is an adaptive  
24 adjustment to threat in the brain that is maladaptive for life circumstances that do not involve  
25 danger. Specifically, visual aides are used to show participants how traumatic stress can alter the  
26 connecting relationships between key areas in the brain’s emotion system (the amygdala,  
27 referred to as “the alarm center” for teaching purposes; and the hippocampus, referred to as the  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

1  
2  
3 “memory filing/retrieval center”) and executive system (the prefrontal cortex, referred to as “the  
4 thinking center”). This information helps the youth understand why they feel and react the way  
5 they do and provides information on how to regain control of their PTSD symptoms, which leads  
6 to the second component--teaching and guided practice of the FREEDOM skills. These skills  
7 first used to help the client reexamine recent stressful experiences, but can also be used to  
8 understand trauma memories. Each of the FREEDOM skills is designed to enhance awareness of  
9 “alarm” reactions while also enabling youths to recognize their capacity to re-set the brain’s  
10 alarm by thinking in a highly focused (but not hypervigilant) manner. The last component is an  
11 experiential exercise where the client makes a timeline of his or her life. This helps to organize  
12 autobiographical memory (including but not primarily focusing on traumatic events), which  
13 often has become fragmented (and therefore prone to intrusive re-experiencing and negative self-  
14 attributions) for traumatized youth (Ford, Steinberg, Hawke et al., in press) and adults (Ford,  
15 Steinberg, & Zhang, in press; Frisman, et al., 2008).  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33

34 An important aspect of the TARGET intervention in juvenile justice facilities is the  
35 extension of the FREEDOM skills from the educational/therapeutic groups into the entire milieu  
36 (Ford & Hawke, in review). TARGET training is provided to line staff, teachers, and  
37 administrators as well as to clinicians/therapists, in order that all personnel can utilize and  
38 reinforce the FREEDOM skills on a 24/7 basis when the greatest amount of learning and  
39 generalization is likely to take place. TARGET materials such as posters displaying the  
40 FREEDOM skills and “personal practice worksheets” that youths and staff can use to help  
41 youths process stress reactions using the FREEDOM skills, are made available throughout the  
42 milieu and integrated into daily activities such as morning check-ins. The goal is to diffuse the  
43 intervention into every facet of the facility milieu.  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

Results from a study funded by the Office of Juvenile Justice and Delinquency Programs showed that TARGET was more effective than relational therapy (Enhanced Treatment as Usual, ETAU) on PTSD symptoms and remission from PTSD (77% in TARGET versus 53% in ETAU) at the end of 12 therapy sessions. In this study, TARGET was used as an individual therapy for PTSD with 61 delinquent girls (Ford, Steinberg, Hawke, et al., in press). A field study found that rates of seclusion and restraint dropped dramatically in Connecticut's juvenile detention centers that have implemented 4-session TARGET groups (Ford & Hawke, in review). Connecticut, Florida, and Maine are all implementing TARGET in their juvenile justice systems.

### Data analysis

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

### Results

#### TARGET vs. Treatment As Usual Analysis

*Use of Safety Interventions.* To examine trends in the use of safety interventions, 2007 data (pre-TARGET introduction) was compared to 2008. As evidenced by graph 1, while both groups used physical response at the same rate at the beginning of 2007, over time the TAU group used the intervention at a rate five times that of the TARGET group. A similar trend emerged with the number of menacing threats made by youth and the use of seclusion (which appear strongly correlated). As shown in graph 2, over time the TAU group used seclusion at a rate six times that

1  
2  
3 of the TARGET group. Additionally, the TARGET group evidenced a continued reduction in  
4  
5 the use of seclusion for 8 months following the introduction of the intervention. The increased  
6  
7 use of physical response and seclusion over the last quarter in both the TARGET and TAU  
8  
9 groups may be due to the occurrence of two non-school periods during that time frame where  
10  
11 youth would have been permitted greater free-time on units. Periods where youth are not in  
12  
13 school programming have been found to lead to increases in behavioral outburst. It is not  
14  
15 believed that this pattern was specifically associated with the intervention itself. It should be  
16  
17 noted that improvements in the TARGET group were evidenced only after the introduction of the  
18  
19 intervention in February of 2008.  
20  
21  
22  
23

24 [Insert Graphs 1-3 here]

25  
26  
27 *Symptom and Resiliency Measures.* As shown in table 1, significant group x time  
28  
29 differences were found on the hope ( $F=8.78$ ,  $p<.001$ ) and service satisfaction factors ( $F=3.81$ ,  
30  
31  $p<.05$ ) of the Ohio Scales, and depression as measured by the MFQ ( $F=3.57$ ,  $p<.05$ ), with  
32  
33 TARGET experiencing significantly greater improvement over time than TAU. Significant time  
34  
35 effects were also demonstrated on a number of measures, indicating youth noticeably improved  
36  
37 over time in both groups. Specifically, improvements over time were noted in the problem  
38  
39 severity ( $F=3.44$ ,  $p>.05$ ) and service satisfaction ( $F=3.44$ ,  $p<.05$ ) factors of the Ohio Scales, the  
40  
41 Post Traumatic Stress Disorder (PTSD) ( $F=3.43$ ,  $p>.05$ ), and anxiety disorder ( $F=29.86$ ,  $p>.001$ )  
42  
43 on the UCLA- PTSD-RI.  
44  
45  
46  
47

48 [Insert Table 1 about here]

## 49 50 51 52 **Clinical Findings**

53  
54  
55  
56  
57  
58  
59  
60

1  
2  
3 While not all findings were statistically significant, most facilities evidenced clinically  
4 significant improvements in core treatment domains when comparing mean scores to the  
5 diagnostic clinical cutoff score.  
6  
7  
8  
9

10 TARGET had superior clinical outcomes when compared to TAU on scores for  
11 depression, PTSD, anxiety, and perceptions of hope and optimism (clinical cutoff scores are  
12 denoted by the **bold line** on each graph). As shown in chart 4, mean scores on the MFQ for  
13 TARGET reduced over time (M=8.62), while the TAU group experienced an increase  
14 (M=10.35). The MFQ diagnostic cutoff score is 8, suggesting TARGET reduced depression  
15 symptoms to a level close to the diagnostic cutoff. Symptoms of anxiety reduced significantly for  
16 both groups. As evidenced by chart 5, the mean scores on the SCARED for TARGET  
17 (M=12.32) and TAU (M= 18.13) reduced over time to levels far below the diagnostic cutoff  
18 score of 25. PTSD symptoms also improved over time in both groups (see chart 6). While the  
19 TAU group (M=38.73, mean difference= -2.62) evidenced reductions near the diagnostic  
20 cutoff score of 38, the TARGET group (M=41.35, mean difference=-4.35) reduced symptom  
21 scores further over time. Finally, improvements in youths' perceptions of hope and optimism  
22 were higher in TARGET (M=10.62) over time as compared to TAU (M=12.80) (chart 7). The  
23 Ohio Scales hope measure is reversed scored, meaning lower scores suggest improvement, with  
24 scores higher than 10 indicating the existence of a mental illness.  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44

45  
46 *[Insert Charts 4-7 about here]*  
47

## 48 Discussion

49 Preliminary results suggest that TARGET is superior to the Treatment As Usual (TAU)  
50 group in producing durable improvements in perceived hope and optimism, depression, and  
51 service satisfaction over the course of two time periods. Additionally, participants receiving  
52  
53  
54  
55  
56  
57  
58  
59  
60



TARGET had greater clinical improvement in depression, anxiety, and PTSD as compared to TAU when examining clinical cutoff scores. Of particular concern was that depression symptoms increased and hope and optimism decreased in the TAU group over time. These results also 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 number of youth threats. While this is not a specific measure of recidivism, it does suggest that utilizing a trauma focused intervention may serve to assist youth in managing their behavior which may ultimately decrease the likelihood of engaging in at least some behaviors which may be related to increased recidivism. While this study did not use a randomized sample, these findings support the continued use of TARGET in DYS facilities.

### **Limitations**

Although this study documented reductions in threatening and disruptive behavior by youth while still incarcerated, it did not follow them after release to document whether their subsequent histories showed reduced delinquent behaviors and reductions in recidivism. 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, and 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 Ohio Scales also must be considered with care given its limited applicability to this population. 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.

## 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 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.
- Birmaher, B., Khetarpal, S., Cully, M., Brent, D., & McKenzie, S. (1995). Screen for Child Anxiety Related Disorders (SCARED). 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.
- DeRosa, R., Habib, M., Pelcovitz, D., Rathus, J., Sonnenklar, J., Ford, J., Sunday, S., Layne, C., Saltzman, W., Turnbull, A., Labruna, V., & Kaplan, S. (2008). *SPARCS: Structured Psychotherapy for Adolescents Responding to Chronic Stress: A Trauma-Focused Guide*. North Shore Long Island Jewish Health System, Inc., Great Neck, NY.
- 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*. 13-26.
- Ford, J. D. & Hawke, J. (in preparation). Demonstration of a promising evidence- informed multimodal trauma recovery intervention multimodal trauma recovery intervention (TARGET) for girls and boys in juvenile detention programs. Research reported at [www.nrepp.samhsa.gov](http://www.nrepp.samhsa.gov).
- 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.

- 1  
2  
3 Ford, J. D., Steinberg, K., Hawke, J., Levine, J., & Zhang, W. (in press). Randomized trial  
4  
5 comparison of emotion regulation and relational psychotherapies for PTSD with girls  
6  
7 involved in delinquency. *Journal of Clinical Child and Adolescent Psychology*.  
8  
9
- 10 Ford, J. D., Steinberg, K., & Zhang, W. (in press). Affect regulation and social problem-solving  
11  
12 psychotherapies for high-risk mothers with PTSD. *Behavior Therapy*.  
13  
14
- 15  
16 Frisman, L., Ford, J., Lin, H.-J., Mallon, S., & Chang, R. (2008). Outcomes of Trauma  
17  
18 Treatment Using the TARGET Model. *Journal of Groups in Addiction & Recovery*, 3(3-  
19  
20 4), 285-303.
- 21  
22 Garland, A.G., Hough, R.L., McCabe, K.M., Yeh, M., Wood, P.A., Aarons, G.A. (2001).  
23  
24 Prevalence of psychiatric disorders in youths across five sectors of care. *Journal of the*  
25  
26 American Academy of Child and Adolescent Psychiatry 40, 409-418.
- 27  
28 Grisso, T, & Barnum, R (1998). *Massachusetts Youth Screening Instrument (MAYSI):*  
29  
30 *Preliminary manual and technical report*. Worcester MA: University of Massachusetts  
31  
32 Medical School.
- 33  
34 Guerra, N.G., Kim, T.E., & Boxer, P. (2008). What Works: Best Practices with Juvenile  
35  
36 Offenders. In R. D. Hoge, N. G. Guerra & P. Boxer (Eds.), *Treating the Juvenile*  
37  
38 *Offender* (pp. 79-102). New York, NY: The Guilford Press.
- 39  
40 Layne, C. M., Pynoos, R. S., Saltzman, W. R., & Arslanagić, B., Black, M., Savjak, N.,  
41  
42 Popvic, T., Durakovic, E., Music, M., Campara, N., Djapo, N., Houston, R. (2001).  
43  
44 Trauma/Grief-Focused Group Psychotherapy. *Group Dynamics: Theory, Research, and*  
45  
46 *Practice*, 5(4), 277-290.
- 47  
48 Marrow, M. (2009). *Implementing a trauma informed Approach in Juvenile Corrections*  
49  
50 *in Ohio*. Paper presented at the NCTSN All Network Conference.
- 51  
52 McMackin, R.A., Leisen, M.B., Sattler, L., Krinsley, K., & Riggs, D.S. (2002).  
53  
54 Preliminary Development of Trauma-Focused Treatment Groups for Incarcerated  
55  
56 Juvenile Offenders, *Journal of Aggression, Maltreatment & Trauma*, 6(1), 175 -199.
- 57  
58 NASMHPD/NTAC (2004). *Implementing Recovery-based Care: Tangible Guidance for*  
59  
60 *SMHAs*.
- 61  
62 Ogles, B., Melendez, G., Davis, D., & Lunnen, K. (2001). The Ohio Scales: Practical Outcome  
63  
64 Assessment. *Journal of Child and Family Studies*, 10(2), 199-212.
- 65  
66 Pynoos, R., Rodriguez, N., Steinberg, A., Stuber, M., & Frederick, C. (1998). UCLA  
67  
68 PTSD Index for DSM-IV.

- 1  
2  
3  
4 Riggs Romaine, C.L., Sevin Goldstein, N.E., Hunt, E., and DeMatteo, D. (2010).  
5 Traumatic experiences and juvenile amenability: The role of trauma in forensic  
6 evaluations and judicial decision making. *Child Youth Care Forum*, 1-18.  
7  
8  
9 Saltzman, W. R., Layne, C. M., Steinberg, A. M. & Pynoos, R. S. (2006). Trauma/Grief-  
10 Focused Group. Psychotherapy with Adolescents. In L.A. Schein, H.I. Spitz, G.M.  
11 Burlingame & P.R. Muskin (Eds.), *Group approaches for the psychological effects of*  
12 *terrorist disasters*. New York: Haworth.  
13  
14  
15 Saltzman, W. R., Pynoos, R. S., Layne, C. M., Steinberg, A. & Aisenberg, E. (2001A).  
16 Trauma/grief-focused intervention for adolescents exposed to community violence:  
17 Results of a school-based screening and group treatment protocol. *Group Dynamics:*  
18 *Theory, Research, and Practice*, 5, 291-303.  
19  
20  
21 Saltzman, W. R., Steinberg, A. M., Layne, C. M., Aisenberg, E., & Pynoos, R. S.  
22 (2001B). A Developmental Approach to School-Based Treatment of Adolescents  
23 Exposed to Trauma and Traumatic Loss. *Journal of Child and Adolescent Group*  
24 *Therapy*, 11(2/3), 43-56.  
25  
26  
27 Shufelt, J., & Coccozza, J. (2006). *Youth with mental health disorders in the juvenile justice*  
28 *system: Results from a multi-state prevalence study*. Delmar, NY: National Center for Mental  
29 Health and Juvenile Justice. Retrieved from  
30 <http://www.ncmhjj.com/pdfs/publications/PrevalenceRPB.pdf> on July 15, 2010  
31  
32  
33 Soberman, G. B., Greenwald, R., & Rule, D. L. (2002). A Controlled Study of Eye Movement  
34 Desensitization and Reprocessing (EMDR) for Boys with Conduct Problems. In R.  
35 Greenwald (Ed.), *Trauma and Juvenile Delinquency: Theory, Research, and*  
36 *Interventions* (pp. 217-236). Binghamton, NY: The Haworth Maltreatment & Trauma  
37 Press.  
38  
39  
40 Teplin, L. A., Abram, K. M., McClelland, G. M., Dulcan, M. K., & Mericle, A. A.  
41 (2002). Psychiatric Disorders in Youth in Juvenile Detention. *Archive of General*  
42 *Psychiatry*, 59, 1122-1143.  
43  
44  
45 Veysey, B. M. (2008). Mental Health, Substance Abuse, and Trauma. In R. D. Hoge, N. G.  
46 Guerra & P. Boxer (Eds.), *Treating the Juvenile Offender* (pp. 210-238). New York, NY:  
47 The Guilford Press.  
48  
49  
50 Wasserman, G. A., McReynolds, L. S., Fisher, P. W., & Lucas, C. P. (2002). Psychiatric  
51 disorders in incarcerated youths. *Journal of the American Academy of Child &*  
52 *Adolescent Psychiatry*. 42.1011.  
53  
54  
55 Widom, C. S. Victims of childhood sexual abuse. Washington, D.C.: U.S. Department of  
56 Justice, National Institute of Justice, March, 1995 (NCJ 151525). 34  
57  
58  
59  
60

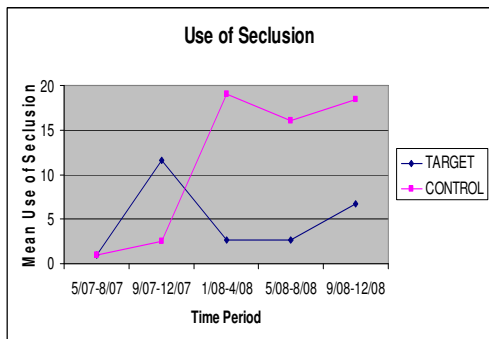
1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

*trauma and post-traumatic stress in the juvenile justice population.* Los Angeles:  
National Child and Traumatic Stress Network. Retrieved from <http://www.NCTSNet.org>

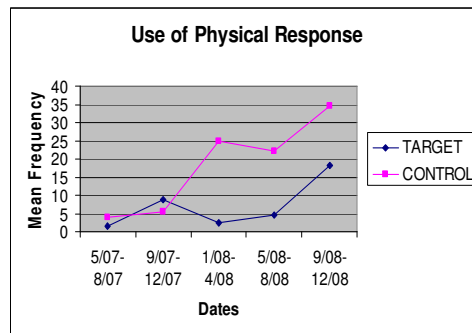
Wood, J., Foy, D.W., Goguen, C.A., Pynoos, R., & James, C.B. (2002). Violence exposure and PTSD among delinquent girls. *Journal of Aggression, Maltreatment & Trauma*, 6(1), 109-126.

Wood J., Foy, D., Layne, C., Pynoos, R., and Boyd James, C., (2002b). 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.

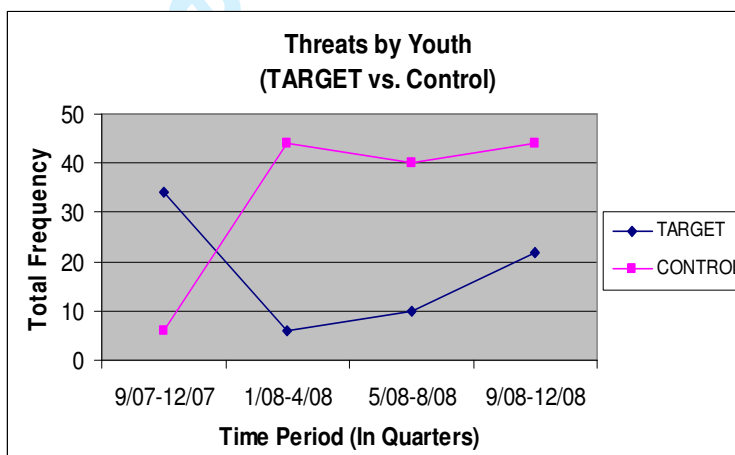
Graph 1. Use of Seclusion



Graph 2. Use of Physical Response



Graph 3. Threats by Youth



PILOT OF A TRAUMA FOCUSED INTERVENTION IN A JJ SETTING

Chart 4.  
Depression Symptoms Over Time

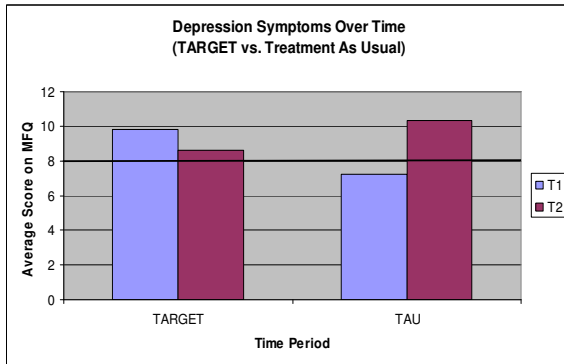


Chart 5.  
Anxiety Symptoms Over Time

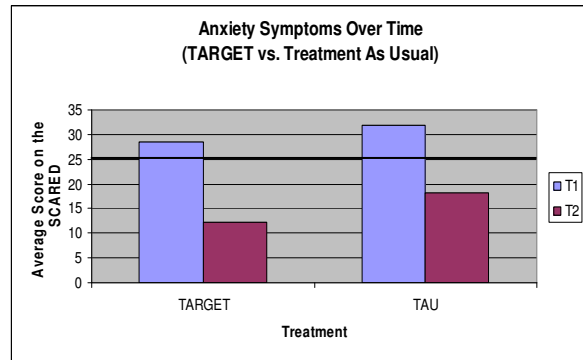


Chart 6.  
PTSD Symptoms Over Time

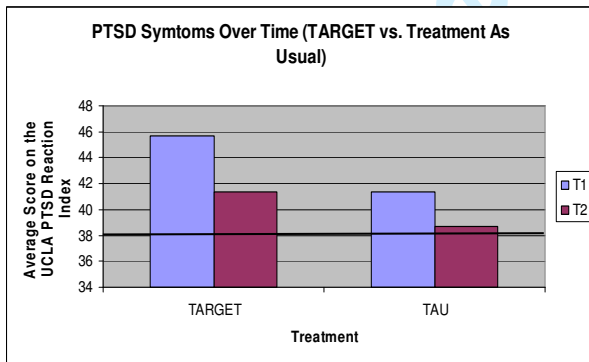


Chart 7.  
Perception of Hope and Optimism Over Time

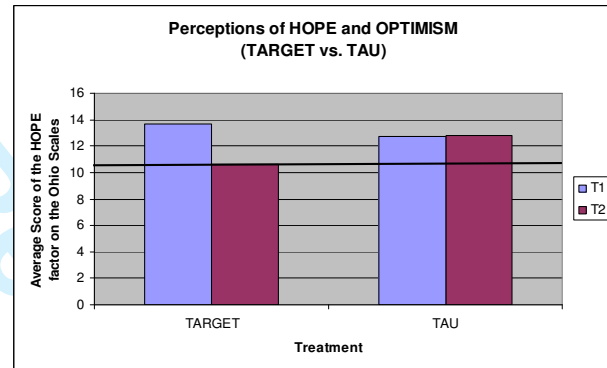


Table 1: Pretreatment to Post-Treatment group by time interactions on outcome measures

## PILOT OF A TRAUMA FOCUSED INTERVENTION IN A JJ SETTING

23

Measure	T1	T2	Group F	Time F	Group vs. Time F
OHIO SCALES-PROBLEM SEVERITY					
TARGET (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)			
OHIO SCALES-HOPE					
TARGET	13.33 (4.80)	17.26 (4.96)	.58	2.23	8.78**
TAU	16.00 (4.00)	14.70 (4.47)			
OHIO SCALES-SERVICE SATISFACTION					
TARGET	15.47 (6.82)	19.80 (3.87)	.75	3.44*	3.81*
TAU	16.59 (5.04)	16.37 (5.84)			
OHIO SCALES-FUNCTIONING					
TARGET	59.35 (10.35)	57.82 (12.87)	1.47	2.23	1.47
TAU	56.99 (10.74)	51.22 (19.12)			
NEGATIVE MOOD REGULATION-					
TARGET	91.61 (10.64)	92.47 (10.84)	.58	.33	.43
TAU	96.66 (12.84)	94.68 (14.56)			
PTSD-					
TARGET	45.70 (14.71)	41.35 (20.72)	.04	3.43*	.25
TAU	41.35 (20.72)	38.73 (19.91)			
DEPRESSION					
TARGET	9.81 (6.37)	8.62 (5.35)	.06	.71	3.57*
TAU	7.25 (3.90)	10.35 (7.59)			
ANXIETY DISORDER					
TARGET	28.48 (16.02)	12.32 (16.17)	2.31	29.86**	.19
TAU	31.86 (13.28)	18.13 (20.15)			
PANIC DISORDER					
TARGET	5.42 (4.41)	4.71 (4.81)	1.24	.09	1.06
TAU	5.95 (4.46)	7.28 (5.72)			
GENERALIZED ANXIETY					



## PILOT OF A TRAUMA FOCUSED INTERVENTION IN A JJ SETTING

24

TARGET	7.50 (4.58)	8.42 (4.60)	.18	.10	1.39
TAU	8.85 (4.60)	8.33 (4.57)			
SEPARATION ANXIETY					
TARGET	5.71 (2.23)	5.78 (3.11)	.62	.08	.02
TAU	6.42 (3.31)	6.66 (4.02)			
SOCIAL ANXIETY					
TARGET	5.64 (2.06)	5.71 (3.85)	.23	.05	.12
TAU	5.38 (2.88)	5.04 (3.74)			
SCHOOL AVOIDANCE					
TARGET	1.28 (1.32)	1.42 (2.37)	1.06	.04	.04
TAU	1.95 (1.60)	1.95 (2.23)			

Note. \* $p > .05$ ; \*\* $p > .001$

Running head: "Pilot of a trauma-focused intervention with incarcerated youth"  
Abstract

This article describes a non randomized 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 (TARGET) 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.

Running head: Pilot of a trauma-focused intervention with incarcerated youth

2

## INTRODUCTION

### Trauma/Adversity/Maltreatment Exposure and Traumatic Reactions

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., Veysey, 2008; Egeland, Yates, Appleyard, & Dulmen, 2002; Mersky & Reynolds, 2007 ). Up to 90% of justice-involved youth experience emotional and behavioral difficulties linked to multiple childhood traumas and losses (Garland et al, 2001; Teplin et al., 2002; Wasserman et al., 2002). The prevalence of posttraumatic stress disorder in juvenile justice populations was found to be eight times higher than in a community sample of similar peers (Wolpaw & Ford, 2004; Abram et al, 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 be 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, Romaine, Sevin Goldstein, Hunt, & DeMatteo, 2010). The likelihood that a youth will be arrested as a juvenile is increased by 53% when that child has experienced child abuse and neglect (NASMHPD/NTAC, 2004).

Running head: Pilot of a trauma-focused intervention with incarcerated youth 3

Rates of current Posttraumatic Stress Disorder diagnosis in juvenile offender populations vary widely in the research from 24% to 51% among males and close to 49% among females in this population (McMackin, Leisen, Sattler, Krinsley, & Riggs, 2002). One 2002 study found that 52% of the female juvenile offenders in their sample 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. 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 (such as depression and anxiety) and externalizing problems (such as 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 posttraumatic 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, & 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

Running head: Pilot of a trauma-focused intervention with incarcerated youth 4

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 et al., 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 multi-faceted trauma-focused intervention would result in improvements in youth management and treatment outcomes. The project’s goal was to determine whether (1) increasing youth emotional and behavioral regulation skills, (2) providing training for staff on childhood traumatic stress, (3) helping staff problem solve effective ways to intervene with youth impacted, and (4) 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 towards 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 TAU (36 male youth) mental health unit between October 2005 and August 2008. Participants

Running head: Pilot of a trauma-focused intervention with incarcerated youth 5

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 21<sup>st</sup> 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.

#### *The Treatment as Usual (TAU) Unit Programming*

The Treatment as Usual (TAU) unit staff and administrators received a one-day psychoeducational training (described below). In addition, 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.

1  
2  
3  
4 Running head: Pilot of a trauma-focused intervention with incarcerated youth 6  
5  
6

7 *The Intervention Unit Programming*  
8

9 The INTERVENTION was a multifaceted approach designed to infuse a trauma-  
10 informed program on a mental health unit and was comprised of three critical portions. The  
11 first component was a one-day psychoeducational general trauma training on childhood  
12 traumatic stress for all staff that provided services on the mental health units and administrators  
13 responsible for those units. The second component was two-day training on Trauma Affect  
14 Regulation: Guide for Education and Therapy (TARGET) principles. This training was followed  
15 by three months of supervision and consultation on the implementation of the TARGET group.  
16 The third component of the intervention included modifications to the unit environments with a  
17 goal of reducing trauma triggers (especially noise) and providing safe places and tools youth  
18 could use to practice self-calming skills introduced within the groups. All of the interventions  
19 noted above were in addition to all of the services described previously for the TAU program.  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34

35 *General Trauma Training*  
36

37 The first step in the intervention was to provide general training on psychological trauma for  
38 all staff (including juvenile correctional officers, unit administrators, social workers,  
39 psychologists, nursing staff, teachers, facility superintendents, and deputies of security and  
40 programming) with a primary responsibility on the unit or who provided services to the unit for  
41 each of the facilities where the INTERVENTION was to be implemented. Four separate full day  
42 trainings occurred between September 1, 2007 and December 30, 2007 and were provided by the  
43 first author. It was required that facility staff attend the one day training as a unit team so that  
44 the process of developing the environmental changes and practices could begin with  
45 brainstorming ways to integrate trauma-focused interventions on to the unit. The training was  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

Running head: Pilot of a trauma-focused intervention with incarcerated youth 7

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

### *TARGET Intervention*

Trauma Affect Regulation: Guide for Education and Therapy or “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 (“F”); trauma processing via Recognizing current triggers, Emotions, and cognitive Evaluations (“REE”), and, strength-based reintegration by Defining core goals, identifying currently effective Options, and affirming core values by Making positive contributions (“DOM”). 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. The first is education. 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



1  
2  
3  
4 Running head: Pilot of a trauma-focused intervention with incarcerated youth 8  
5  
6 connecting relationships between key areas in the brain's emotion system (the amygdala,  
7 referred to as "the alarm center" for teaching purposes; and the hippocampus, referred to as the  
8 "memory filing/retrieval center") and executive system (the prefrontal cortex, referred to as "the  
9 thinking center"). This information helps the youth understand why they feel and react the way  
10 they do and provides information on how to regain control of their PTSD symptoms, which leads  
11 to the second component--teaching and guided practice of the FREEDOM skills. These skills  
12 were first used to help the client reexamine recent stressful experiences, but can also be used to  
13 understand trauma memories. Each of the FREEDOM skills is designed to enhance awareness of  
14 "alarm" reactions while also enabling youth to recognize their capacity to re-set the brain's alarm  
15 by thinking in a highly focused (but not hypervigilant) manner. The last component is an  
16 experiential exercise where the client makes a timeline of his or her life. This helps to organize  
17 autobiographical memory (including but not primarily focusing on traumatic events), which  
18 often has become fragmented (and therefore prone to intrusive re-experiencing and negative self-  
19 attributions) for traumatized youth (Ford, Steinberg, Hawke et al., in press) and adults (Ford,  
20 Steinberg, & Zhang, in press; Frisman, et al., 2008).

21  
22 TARGET was selected as a treatment protocol because it included a training component  
23 for all staff and had shown some promise in juvenile detention settings in Connecticut (Ford &  
24 Hawke, in review). Results from a study funded by the Office of Juvenile Justice and  
25 Delinquency Programs showed that TARGET was more effective than relational therapy in  
26 decreasing PTSD symptoms and remission from PTSD (77% in TARGET versus 53% in  
27 relational therapy) at the end of 12 therapy sessions. In this study, TARGET was used as an  
28 individual therapy for PTSD with 61 delinquent girls (Ford, Steinberg, Hawke, et al., in press).

Running head: Pilot of a trauma-focused intervention with incarcerated youth 9

A field study found that rates of seclusion and restraint dropped dramatically in Connecticut's juvenile detention centers following implementation of the 4-session version of the TARGET group (Ford & Hawke, in review).

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 review). 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 finally 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

1  
2  
3  
4 Running head: Pilot of a trauma-focused intervention with incarcerated youth 10  
5

6 variously referred them as the “chill zone,” “Zen space” or “comfy spot.” There were a variety  
7 of tools youth could use in this room, including weighted blankets, fidget toys, video rockers,  
8 music and multiple other sensory based tools. All tools were reviewed and approved for use by  
9 staff and administration and practices and procedures were developed to ensure safety and  
10 monitoring for appropriate use.  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20

### 21 *Design and Procedure*

22  
23  
24

25 This study was a program evaluation of an INTERVENTION that was piloted by the  
26 State Department of Youth Services and all procedures were reviewed and approved by the State  
27 Department of Youth Service and by the State Department of Health Institutional Review Board.  
28 The youths’ legal guardians were informed of the program, provided with a written description  
29 of the program and its requirements, and asked to consent to participation in the evaluation  
30 portion of the program by the social work or psychology staff on the units. The youth were then  
31 similarly approached by the psychologist or social worker on the unit and the study was  
32 explained verbally as well as in writing and they were asked to assent to the evaluation portion of  
33 the study. Youth who were 18 years of age or older were asked to consent to the evaluation  
34 portion of the program.  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47

48 The INTERVENTION was provided to all youth on the intervention units regardless of  
49 whether or not they specifically assented to the use of their data in the study. The youth and  
50 legal guardians were both made aware that they could withdraw their consent/assent to allow the  
51 youth data to be used at any time and that it would not affect the youth’s ability to be provided  
52  
53  
54  
55  
56  
57  
58  
59  
60

1  
2  
3  
4 Running head: Pilot of a trauma-focused intervention with incarcerated youth 11  
5  
6  
7 treatment services or participate in the group. Youth and legal guardians of youth on the TAU  
8  
9 units were also asked to assent and consent to the assessments. All youth approached regarding  
10  
11 the study and their legal guardians consented/assented to the study. This resulted in a total of 82  
12  
13 youth who participated in initial data collection. However, eight of the youth for whom initial  
14  
15 data was collected were released prior to the second data collection point. Only the 74 youth  
16  
17 who were available for both data collection points are included in this study.  
18  
19

20  
21 Beginning in April of 2008, baseline evaluations (T1) were administered to all youth who  
22  
23 were placed on the INTERVENTION and TAU units at initiation of the study. These baseline  
24  
25 evaluations continued as a standard part of the intake process over a period of the next five  
26  
27 months. As new youth were admitted to the unit, the consent and baseline assessments were  
28  
29 completed with them prior to beginning the INTERVENTION or TAU. Instrument  
30  
31 administration took between 60 and 90 minutes. Reassessments occurred for each youth three  
32  
33 months following initial assessment (T2) for both the INTERVENTION and TAU groups. This  
34  
35 interval was pre-selected to ensure adequate time for youth to benefit from the INTERVENTION  
36  
37 and participate in group. Though more data collection points for clinical data were available, the  
38  
39 focus of this study was the first 9 months – during which we ensured that each youth had at least  
40  
41 one three month follow-up. Unit psychologists and social workers conducted all assessments  
42  
43 with youth individually in a private room and assisted youth with low literacy by reading the  
44  
45 questions and response options when necessary. For both treatment programs instruments were  
46  
47 scored with electronic scoring systems to reduce error and clinical reports were forwarded to  
48  
49 clinicians to use in treatment with youth.  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

Running head: Pilot of a trauma-focused intervention with incarcerated youth 12

### *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, 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, B., Khetarpal, S., Cully, M., Brent, D., & McKenzie, S, 1995) is a 41-item self-report screening instrument for detecting symptoms of anxiety disorders in children and adolescents eight years of age and older. The Trauma Events Screening Inventory (TESI) (Ford & Rogers, 1997) is a 15-item interview that assesses a child's experience of a variety of traumatic events. A 48-item scale that assesses a child's exposure to 26 types of traumatic events and assesses DSM-IV PTSD diagnostic criteria, named UCLA PTSD Reaction Index (RI) (Pynoos, 1998), was used. The Ohio Scales (OS) (Oogles, 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 which 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) (Grisso & Barnum, 1990) is a 52-question self-report measure designed to identify youths 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.

Running head: Pilot of a trauma-focused intervention with incarcerated youth

13

### *Seclusion, Restraint and Verbal Threats Measures*

In addition to measures designed to assess post traumatic 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 treatment 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 use illicit drugs (58%).

### INTERVENTION vs. Treatment as Usual Analysis

*Use of Seclusion and Physical Response.* To examine trends in the use of safety interventions, May to August 2007 data (pre-INTERVENTION) was compared to data collected between

1  
2  
3  
4  
5 Running head: Pilot of a trauma-focused intervention with incarcerated youth 14

6  
7 September 2007(immediately following initial 1 day training) and December 2008. As  
8  
9 evidenced by graph 1, while both groups used physical response (restraint) at the same rate  
10  
11 between May and August of 2007, over time the TAU group used physical response (restraint) at  
12  
13 a rate five times that of the INTERVENTION group. A similar trend emerged with use of  
14  
15 seclusion and the number of menacing threats made by youth (which appear strongly correlated).  
16  
17 As shown in graph 2, over time the TAU group used seclusion at a rate six times that of the  
18  
19 INTERVENTION group. Additionally, the INTERVENTION group evidenced a continued  
20  
21 reduction in the use of seclusion for 8 months following the introduction of the intervention.  
22  
23

24  
25  
26 *[Insert Graphs 1-3 here]*  
27

28  
29 *Symptom and Resiliency Measures.* As shown in table 1, significant group by time  
30  
31 differences were found on the hope ( $F=8.78$ ,  $p < .001$ ) and service satisfaction factors ( $F=3.81$ ,  
32  
33  $p < .05$ ) of the Ohio Scales, and in depression as measured by the MFQ ( $F=3.57$ ,  $p < .05$ ), with the  
34  
35 INTERVENTION group experiencing significantly greater improvement over time than TAU.  
36  
37 Significant time effects were also demonstrated on a number of measures, indicating youth  
38  
39 noticeably improved over time in both groups. Specifically, improvements over time were noted  
40  
41 in the problem severity ( $F=3.44$ ,  $p < .05$ ) factor of the Ohio Scales, the Post Traumatic Stress  
42  
43 Disorder (PTSD) ( $F=3.43$ ,  $p < .05$ ), and anxiety disorder ( $F=29.86$ ,  $p < .001$ ) on the UCLA-  
44  
45 PTSD-RI.  
46  
47

48  
49 *[Insert Table 1 about here]*  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

Running head: Pilot of a trauma-focused intervention with incarcerated youth

15

## 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. 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). As shown in chart 4, 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. As evidenced by chart 5, 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 (see chart 6). Finally, improvements in youths' perceptions of hope and optimism were higher in the INTERVENTION group ( $M=10.62$ ) over time as compared to TAU ( $M=12.80$ ) (chart 7). The Ohio Scales hope measure is reverse scored, meaning lower scores suggest improvement.

*[Insert Charts 4-7 about here]*

## Discussion

Preliminary results suggest that a trauma-focused intervention strategy inclusive of training for staff, implementation of a specific trauma focused group treatment (TARGET), and environmental modification was superior to the Treatment As Usual (TAU) program in producing durable improvements in perceived hope and optimism and depression over the course



1  
2  
3  
4 Running head: Pilot of a trauma-focused intervention with incarcerated youth 16  
5  
6 of three months. Additionally, participants receiving the trauma-focused intervention had greater  
7  
8 clinical improvement in depression and anxiety as compared to TAU when examining clinical  
9  
10 cutoff scores. In addition, depression symptoms increased and hope and optimism decreased in  
11  
12 the TAU group while there were improvements in depression and optimism in the  
13  
14 INTERVENTION group during the same time period. One indicator that also is important to  
15  
16 consider from a consumer perspective is service satisfaction. On the service satisfaction subscale  
17  
18 of the Ohio Scales youth on the INTERVENTION units expressed significantly more satisfaction  
19  
20 with the mental health services they were receiving in comparison to the youth on the TAU unit  
21  
22 who demonstrated no changes in service satisfaction. While not specifically a clinical indicator,  
23  
24 it may suggest that youth felt staff were more responsive to their needs and that the interventions  
25  
26 used were helping them.  
27  
28  
29  
30  
31

32  
33 Though clinical indicators are definitely a target of this study, other important indicators,  
34  
35 particularly related to the safe and effective behavioral management of youth, is the use of  
36  
37 seclusion and physical response (restraint). These are always targets for reduction across both  
38  
39 juvenile correctional programs and residential facilities. Seclusion and restraint are not only  
40  
41 harmful to youth but also have a negative impact on the staff who must respond. This study's  
42  
43 results related to seclusion, restraint and youth threats towards staff suggest that implementation  
44  
45 of a milieu based trauma-focused intervention may have value in assisting juvenile correctional  
46  
47 facilities in reducing the use of seclusion and restraint while also reducing the incidents of youth  
48  
49 threats. It is believed that these behavioral outcomes are at least partially related to the youth  
50  
51 acquiring increased ability to regulate themselves behaviorally and emotionally. It is possible  
52  
53 that through training and assisting youth in using effective coping strategies and regulation  
54  
55  
56  
57  
58  
59  
60

1  
2  
3  
4 Running head: Pilot of a trauma-focused intervention with incarcerated youth 17  
5  
6 techniques the staff also improved their ability to regulate their own emotions and behaviors  
7  
8 which is an equal factor in determining restraint and seclusion use. Though staff regulation  
9  
10 skills were not a part of this study, informal interviews with staff working on the  
11  
12 INTERVENTION units supports this hypothesis. Many staff indicated that what they liked  
13  
14 about being on the unit was that through the training they had many more “tools” to use with  
15  
16 youth which made working with the youth more rewarding. They could spend less time writing  
17  
18 in seclusion logs and more time engaging with the youth in activities. Some even commented  
19  
20 that they were able to use what they learned in their personal lives outside of the facility.  
21  
22 Informal comments from the youth suggested that they also liked the staff more; often indicating  
23  
24 they were “more fair.” This may be what is contributing to the increase in service satisfaction  
25  
26 scores for the youth.  
27  
28  
29  
30  
31  
32

33 Another element which may have contributed to the success of the program was that by  
34  
35 design staff traditionally referred to as “treatment” or “program” staff and staff who have more  
36  
37 frequently been referred to as “security” staff were trained and had to work together to develop  
38  
39 the INTERVENTION units based upon what they had learned in training. The skills youth were  
40  
41 learning in group were also taught to the staff responsible for their round-the-clock care and  
42  
43 supervision so that these skills could be reinforced when youth were not in group. The  
44  
45 environmental modifications were undertaken as a team project with all staff, youth and  
46  
47 administrators sharing ideas about placement of the comfort rooms, design of the units and items  
48  
49 to be used.  
50  
51  
52

### 53 **Limitations**

54  
55  
56  
57  
58  
59  
60

1  
2  
3  
4 Running head: Pilot of a trauma-focused intervention with incarcerated youth 18  
5  
6

7 Given that the study was a program evaluation that involved multiple interventions  
8 introduced simultaneously, the specific components that were effective in producing outcomes  
9 could not be pulled from the study. Though it is clear that training alone, which the TAU unit  
10 staff did receive, is insufficient to produce decreases in the use of safety measures and youth  
11 threatening behavior. Future studies will be necessary to better evaluate the incremental impact  
12 of a trauma-focused group intervention, continued staff training and environmental  
13 modifications.  
14  
15  
16  
17  
18  
19  
20  
21  
22

23 Although this study documented reductions in threatening and disruptive behavior by  
24 youth and the necessity for staff intervention while still incarcerated, it did not follow the youth  
25 after release to document whether their subsequent histories showed reduced delinquent  
26 behaviors and reductions in recidivism as a function of the skills acquired. This will be an  
27 important next step in evaluating the long-term community impact of implementing such an  
28 intervention. Other limitations to the study include its relatively small sample size. In addition,  
29 because there were only seven females in the study, no comparative gender analyses were  
30 possible. At least one of the scales for the selected instruments, the functioning scale of the Ohio  
31 Scales, was geared for a community sample and has limited applicability to incarcerated youth.  
32 The functioning scale includes items that are not relevant to detained youth, such as improved  
33 dating relationships, earning money, and participating in hobbies, all activities geared toward a  
34 community sample. These items artificially reduced the functioning scores for study participants  
35 and therefore should be interpreted with caution. Despite these limitations, this study supports  
36 the use of a multimodal trauma-focused intervention within a correctional setting and  
37 demonstrates that implementing such a system is possible within a correctional environment. It  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

1  
2  
3  
4 Running head: Pilot of a trauma-focused intervention with incarcerated youth 19  
5  
6  
7 is still extremely important to find ways to replicate and refine these findings with such a  
8  
9  
10 population, though randomized controlled studies with dually protected populations (children  
11  
12 and the incarcerated) can prove challenging.  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

For Peer Review Only

Running head: Pilot of a trauma-focused intervention with incarcerated youth 20

## 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 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). Western Psychiatric Institute and Clinic, University of Pittsburgh.
- Caporino, N., Murray, L., & Jensen, P. (2003). The impact of different traumatic experiences in childhood and adolescence. *Emot Beh Disord Youth, (Summer): 63-64, 73-76*.
- 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.
- DeRosa, R., Habib, M., Pelcovitz, D., Rathus, J., Sonnenklar, J., Ford, J., Sunday, S., Layne, C., Saltzman, W., Turnbull, A., Labruna, V., & Kaplan, S. (2008). *SPARCS: Structured Psychotherapy for Adolescents Responding to Chronic Stress: A Trauma-Focused Guide*. North Shore Long Island Jewish Health System, Inc., Great Neck, NY.
- 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. (2007). Trauma Affect Regulation: Guide for Education and Therapy (TARGET) Facilitator Guide -- Adolescent Version Group Therapy (10 Sessions). ©University of Connecticut.
- Ford, J.D., Chapman, J., Mack, M., & Pearson, G. (2006). Pathways from traumatic child

Running head: Pilot of a trauma-focused intervention with incarcerated youth 21

victimization to delinquency: Implications for juvenile and permanency court proceedings and decisions. *Juvenile and Family Court Journal*. 13-26.

Ford, J. D. & Hawke, J. (in preparation). Demonstration of a promising evidence- informed multimodal trauma recovery intervention multimodal trauma recovery intervention (TARGET) for girls and boys in juvenile detention programs. Research reported at [www.nrepp.samhsa.gov](http://www.nrepp.samhsa.gov).

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. (in press). Randomized trial comparison of emotion regulation and relational psychotherapies for PTSD with girls involved in delinquency. *Journal of Clinical Child and Adolescent Psychology*.

Ford, J. D., Steinberg, K., & Zhang, W. (in press). Affect regulation and social problem-solving psychotherapies for high-risk mothers with PTSD. *Behavior Therapy*.

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 & 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.

Guerra, N.G., Kim, T.E., & Boxer, P. (2008). What Works: Best Practices with Juvenile Offenders. In R. D. Hoge, N. G. Guerra & P. Boxer (Eds.), *Treating the Juvenile Offender* (pp. 79-102). New York, NY: The Guilford Press.

- 1  
2  
3  
4 Running head: Pilot of a trauma-focused intervention with incarcerated youth 22  
5  
6  
7 Layne, C. M., Pynoos, R. S., Saltzman, W. R., & Arslanagić, B., Black, M., Savjak, N.,  
8 Popvic, T., Durakovic, E., Music, M., Campara, N., Djapo, N., Houston, R. (2001).  
9 Trauma/Grief-Focused Group Psychotherapy. *Group Dynamics: Theory, Research, and*  
10 *Practice*, 5(4), 277-290.  
11  
12 Marrow, M. (2009). *Implementing a trauma informed Approach in Juvenile Corrections*  
13 *in Ohio*. Paper presented at the NCTSN All Network Conference.  
14  
15  
16 Mersky, J. P., & Reynolds, A. J. (2007). Child maltreatment and violent delinquency:  
17 Disentangling main effects and subgroup effects. *Child Maltreatment*, 12, 246–258.  
18  
19  
20 McMackin, R.A., Leisen, M.B., Sattler, L., Krinsley, K., & Riggs, D.S. (2002).  
21 Preliminary Development of Trauma-Focused Treatment Groups for Incarcerated  
22 Juvenile Offenders, *Journal of Aggression, Maltreatment & Trauma*, 6(1), 175 -199.  
23  
24 NASMHPD/NTAC (2004). *Implementing Recovery-based Care: Tangible Guidance for*  
25 *SMHAs*.  
26  
27  
28 Ogles, B., Melendez, G., Davis, D., & Lunnen, K. (2001). The Ohio Scales: Practical Outcome  
29 Assessment. *Journal of Child and Family Studies*, 10(2), 199-212.  
30  
31  
32 Putnam, F. (2006). The impact of trauma on child development, *Juvenile and Family Court*  
33 *Journal*, 57, 1-11.  
34  
35 Pynoos, R., Rodriguez, N., Steinberg, A., Stuber, M., & Frederick, C. (1998). UCLA  
36 PTSD Index for DSM-IV.  
37  
38 Riggs Romaine, C.L., Sevin Goldstein, N.E., Hunt, E., and DeMatteo, D. (2010).  
39 Traumatic experiences and juvenile amenability: The role of trauma in forensic  
40 evaluations and judicial decision making. *Child Youth Care Forum*, 1-18.  
41  
42  
43 Saltzman, W. R., Layne, C. M., Steinberg, A. M. & Pynoos, R. S. (2006). Trauma/Grief-  
44 Focused Group Psychotherapy with Adolescents. In L.A. Schein, H.I. Spitz, G.M.  
45 Burlingame & P.R. Muskin (Eds.), *Group approaches for the psychological effects of*  
46 *terrorist disasters*. New York: Haworth.  
47  
48  
49 Saltzman, W. R., Pynoos, R. S., Layne, C. M., Steinberg, A. & Aisenberg, E. (2001A).  
50 Trauma/grief-focused intervention for adolescents exposed to community violence:  
51 Results of a school-based screening and group treatment protocol. *Group Dynamics:*  
52 *Theory, Research, and Practice*, 5, 291-303.  
53  
54  
55  
56  
57  
58  
59  
60

- 1  
2  
3  
4 Running head: Pilot of a trauma-focused intervention with incarcerated youth 23  
5  
6  
7 Saltzman, W. R., Steinberg, A. M., Layne, C. M., Aisenberg, E., & Pynoos, R. S.  
8 (2001B). A Developmental Approach to School-Based Treatment of Adolescents  
9 Exposed to Trauma and Traumatic Loss. *Journal of Child and Adolescent Group*  
10 *Therapy*, 11(2/3), 43-56.  
11  
12 Shufelt, J., & Cocozza, J. (2006). *Youth with mental health disorders in the juvenile justice*  
13 *system: Results from a multi-state prevalence study*. Delmar, NY: National Center for  
14 Mental Health and Juvenile Justice. Retrieved from  
15 <http://www.ncmhjj.com/pdfs/publications/PrevalenceRPB.pdf> on July 15, 2010  
16  
17  
18 Smith, D. K., Leve, L. D., & Chamberlain, P. (2006). Adolescent girls' offending and health-  
19 risking sexual behavior: The predictive role of trauma. *Child Maltreatment*, 11, 346–353.  
20  
21  
22  
23 Soberman, G. B., Greenwald, R., & Rule, D. L. (2002). A Controlled Study of Eye Movement  
24 Desensitization and Reprocessing (EMDR) for Boys with Conduct Problems. In R.  
25 Greenwald (Ed.), *Trauma and Juvenile Delinquency: Theory, Research, and*  
26 *Interventions* (pp. 217-236). Binghamton, NY: The Haworth Maltreatment & Trauma  
27 Press.  
28  
29  
30 Teplin, L. A., Abram, K. M., McClelland, G. M., Dulcan, M. K., & Mericle, A. A.  
31 (2002). Psychiatric Disorders in Youth in Juvenile Detention. *Archive of General*  
32 *Psychiatry*, 59, 1122-1143.  
33  
34  
35 Veysey, B. M. (2008). Mental Health, Substance Abuse, and Trauma. In R. D. Hoge, N. G.  
36 Guerra & P. Boxer (Eds.), *Treating the Juvenile Offender* (pp. 210-238). New York, NY:  
37 The Guilford Press.  
38  
39  
40 Wasserman, G. A., McReynolds, L. S., Fisher, P. W., & Lucas, C. P. (2002). Psychiatric  
41 disorders in incarcerated youths. *Journal of the American Academy of Child &*  
42 *Adolescent Psychiatry*. 42.1011.  
43  
44  
45 Widom, C. S. Victims of childhood sexual abuse. Washington, D.C.: U.S. Department of  
46 Justice, National Institute of Justice, March, 1995 (NCJ 151525). 34  
47  
48  
49 Wolpaw, J. W., & Ford, J. D. (2004). *Assessing exposure to psychological*  
50 *trauma and post-traumatic stress in the juvenile justice population*. Los Angeles:  
51 National Child and Traumatic Stress Network. Retrieved from <http://www.NCTSNet.org>  
52  
53  
54 Wood, J., Foy, D.W., Goguen, C.A., Pynoos, R., & James, C.B. (2002). Violence  
55 exposure and PTSD among delinquent girls. *Journal of Aggression, Maltreatment &*  
56 *Trauma*, 6(1), 109-126.  
57  
58  
59  
60



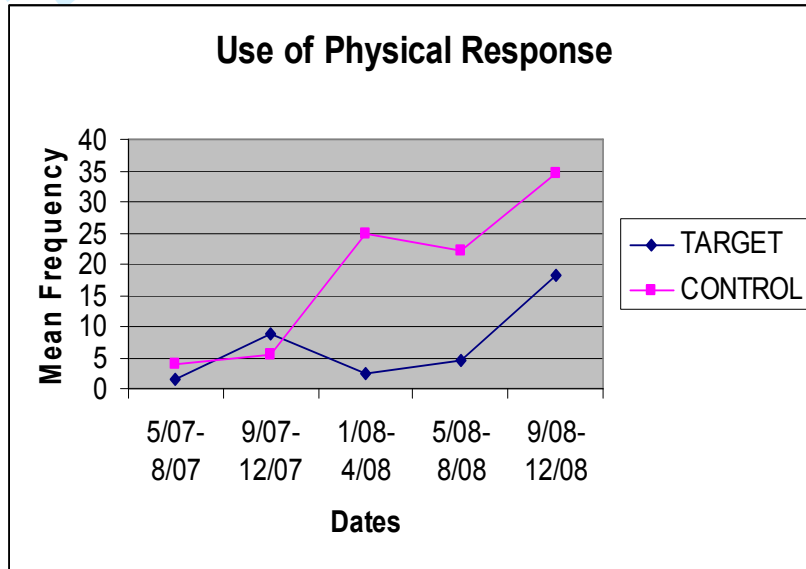
Running head: Pilot of a trauma-focused intervention with incarcerated youth

24

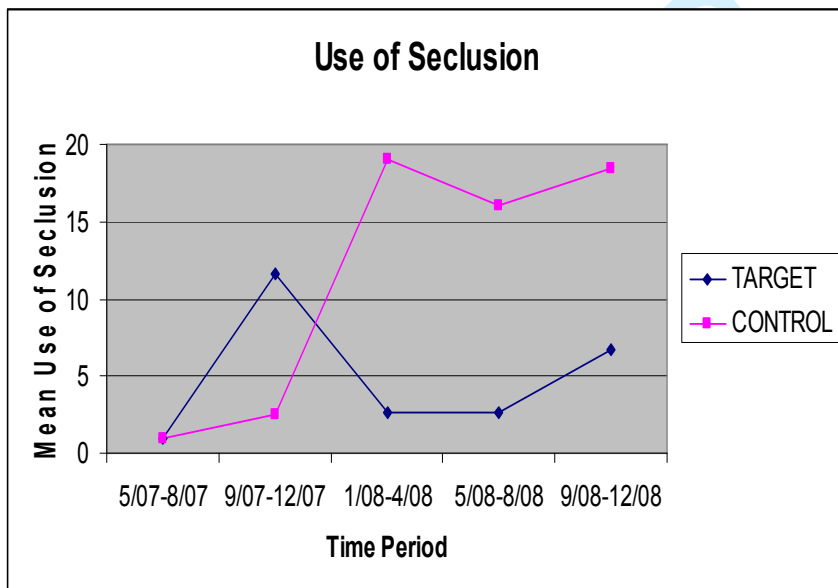
Wood J., Foy, D., Layne, C., Pynoos, R., and Boyd James, C., (2002b). An examination of the relationships between violence exposure posttraumatic stress symptomatology and delinquent activity: An “ecopathological” model of delinquent behavior among incarcerated adolescents. *Journal of Aggression, Maltreatment and Trauma*. 6(1), 127-147.

For Peer Review Only

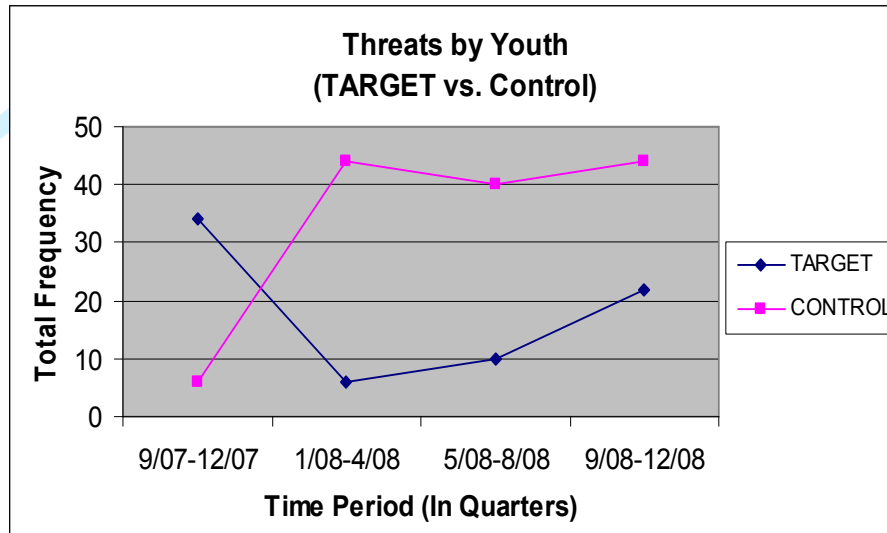
Graph 1. Use of Physical Response



Graph 2. Use of Seclusion



Graph 3. Threats by Youth



Review Only

Chart 4. Depression Symptoms over Time

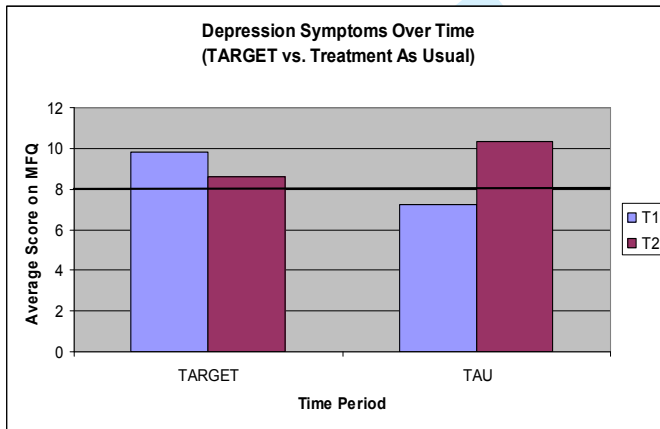


Chart 5. Anxiety Symptoms over Time

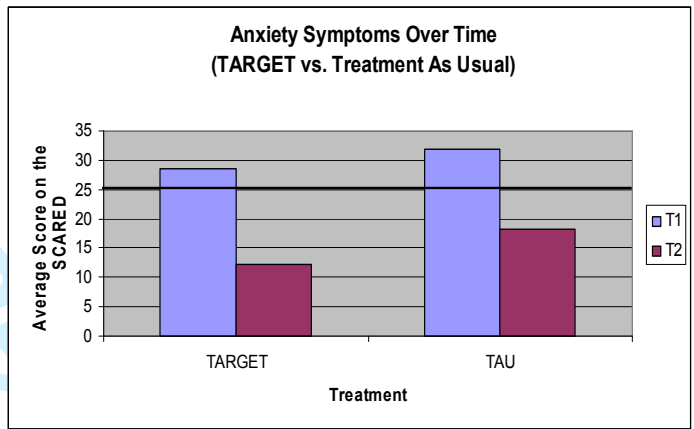


Chart 6. PTSD Symptoms Over Time

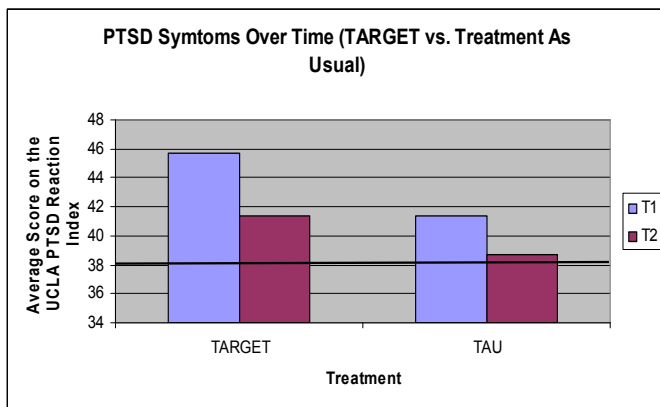
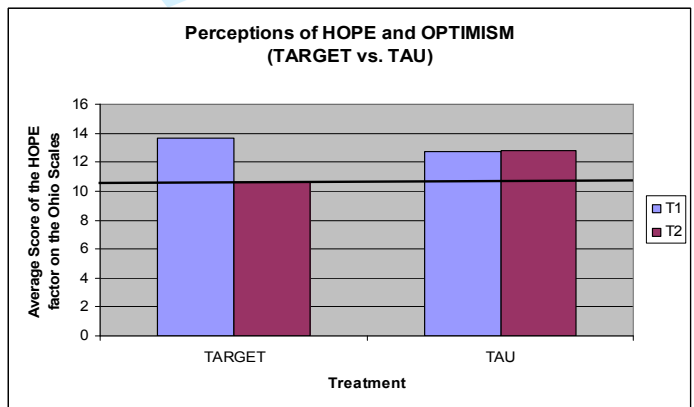


Chart 7. Perception of Hope and Optimism Over Time



Running head: Pilot of a trauma-focused intervention with incarcerated youth

28

Table 1: Pre-intervention to Post-intervention by time interactions on outcome measures

Measure	T1	T2	Group F	Time F	Group vs. Time F
OHIO SCALES-PROBLEM SEVERITY INTERVENTION (N=38) TAU (N=36)	39.12 (29.01) 36.56 (21.52)	32.23 (21.34) 29.62 (22.58)	.17	3.44*	.00
OHIO SCALES-HOPE INTERVENTION TAU	13.33 (4.80) 16.00 (4.00)	17.26 (4.96) 14.70 (4.47)	.58	2.23	8.78**
OHIO SCALES-SERVICE SATISFACTION INTERVENTION TAU	15.47 (6.82) 16.59 (5.04)	19.80 (3.87) 16.37 (5.84)	.75	3.44	3.81*
OHIO SCALES-FUNCTIONING INTERVENTION TAU	59.35 (10.35) 56.99 (10.74)	57.82 (12.87) 51.22 (19.12)	1.47	2.23	1.47
NEGATIVE MOOD REGULATION- INTERVENTION TAU	91.61 (10.64) 96.66 (12.84)	92.47 (10.84) 94.68 (14.56)	.58	.33	.43
PTSD- (UCLA PTSD-RI) INTERVENTION TAU	45.70 (14.71) 41.35 (20.72)	41.35 (20.72) 38.73 (19.91)	.04	3.43*	.25
DEPRESSION (MFQ) INTERVENTION TAU	9.81 (6.37) 7.25 (3.90)	8.62 (5.35) 10.35 (7.59)	.06	.71	3.57*
ANXIETY DISORDER (UCLA PTSD-RI) INTERVENTION TAU	28.48 (16.02) 31.86 (13.28)	12.32 (16.17) 18.13 (20.15)	2.31	29.86**	.19
PANIC DISORDER (SCARED) INTERVENTION TAU	5.42 (4.41) 5.95 (4.46)	4.71 (4.81) 7.28 (5.72)	1.24	.09	1.06
GENERALIZED ANXIETY (SCARED) INTERVENTION TAU	7.50 (4.58) 8.85 (4.60)	8.42 (4.60) 8.33 (4.57)	.18	.10	1.39
SEPARATION ANXIETY (SCARED) INTERVENTION TAU	5.71 (2.23) 6.42 (3.31)	5.78 (3.11) 6.66 (4.02)	.62	.08	.02
SOCIAL ANXIETY (SCARED) INTERVENTION TAU	5.64 (2.06) 5.38 (2.88)	5.71 (3.85) 5.04 (3.74)	.23	.05	.12
SCHOOL AVOIDANCE (SCARED) INTERVENTION TAU	1.28 (1.32) 1.95 (1.60)	1.42 (2.37) 1.95 (2.23)	1.06	.04	.04

Note. \* $p < .05$ ; \*\* $p < .001$