TARGET Evaluation
Ohio Department of Mental Health
Office of Program Evaluation and Research

Kraig J. Knudsen, PhD

Introduction

According to the Ohio Department of Youth Services (ODYS) statistics, in 2006 there were 3,171 children between the ages of 11-20 in Ohio Department of Youth Services (ODYS) facilities. ODYS estimates suggest that a majority of the youth in ODYS custody currently have some mental health issue as evidenced by screening procedures conducted at intake. Of these youth, 72% have had previous contact with the mental health system, and 40% currently see a mental health professional each month. On average, 33% of a DYS worker's individual caseload consists of children with on going, identified mental health issues. Workers at the detention centers also believe that many of the detained youth are potentially suffering from mental health issues as psychological sequelae from exposure to a variety of complex traumas. To this end, DYS approached the Ohio Department of Mental Health (ODMH), which houses a task force on childhood trauma, to collaborate on the implementation and evaluation of TARGET, a psycho-education program that works to reduce the impact of trauma and increase adolescent well-being. This evaluation report summarizes the first two phases of data collection for the TARGET project. The TARGET evaluation study has three primary purposes:

- to explore the effectiveness of TARGET in ODYS juvenile justice facilities in Ohio.
- to establish outcomes and impacts for TARGET, as a method of accountability.
- to explore the impact of the corrections milieu on the adolescent.

Methods

Participants

At present, the TARGET project includes 74 children and adolescents aged 11-19 years old who reside in one of five mental health units at ODYS facilities. The mental health units are separate from the general population and have a classroom, common area, and individual living quarters. All adolescents are screened for mental illness at intake and are referred to the mental health unit based on the severity of their symptoms and behavioral problems. Adolescents housed on the mental health units come from all regions of Ohio, including rural, suburban, and urban areas. TARGET is designed as a milieu program, and as such all adolescents residing at a TARGET site participate in the intervention and are asked to voluntarily take part in the evaluation. Participants are informed that they are not required to participate in the evaluation, and can withdraw their consent to the evaluation at any time.

Sample composition includes seven females and 67 males. Mean ages for both TARGET and TAU groups were 17.4 years. Self-reported racial identify of participants was as follows: 75% Caucasian, 23% African American, 2% other. Most common types of abuse experienced are physical abuse (49%), sexual abuse (44 %), and emotional abuse (28%). The most common types of trauma experienced are watching war on television (81%), separation from loved ones (73%), having a family member in jail (63%), and watching people use illicit drugs (58%). There are no significant differences between TARGET and Treatment As Usual (TAU) groups on any of these demographic variables.

Measures

The following measures were utilized to evaluate participants' progress in treatment. The Mood and Feelings Questionnaire (MFQ) (Angold & Costello,1987), a 13-item self-report screening instrument for detecting symptoms of depressive disorders in children and adolescents (6-17 years of age); the Trauma Events Screening Inventory (TESI) (Ford & Rogers, 1997), a 15-item

interview that assesses a child's experience of a variety of traumatic events; the UCLA PTSD Reaction Index (RI) (Pynoos, 1998), a 48-item scale that assesses a child's exposure to 26 types of traumatic events and assesses DSM-IV PTSD diagnostic criteria; Ohio Scales (OS) (Ogles, Melendez, Davis & Lunnen, 2001), 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), a 30-item scale which assesses an individual's ability to regulate negative moods (i.e., when an individual is in a bad mood, they can do something to make themselves feel better); and the Massachusetts Youth Screening Instrument (MAYSI) (Grisso & Barnum, 1990), 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 documented strong psychometric properties, and have been used in past studies of trauma and/or child and adolescent mental health.

Design and Procedures

Initial evaluations were conducted at intake to the mental health units where treatment is provided. 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 children and parents. Unit psychologists and social workers have conducted all assessments. Children are provided the treatment, either TARGET or TAU, based on the facility where they reside. Three facilities used the TARGET intervention, while two facilities continued with usual treatment. To date, there has been very little drop out from the study. If participants are released from the facilities, follow-up assessments have been conducted by probation staff. While the study has a total of five data collection time points, this report only provides information on the first two assessments.

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 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 responses, 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--rumination, panic, or dissociation (Ford, 2006).

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, Hopefulness, Functioning, PTSD, Depression, Anxiety).

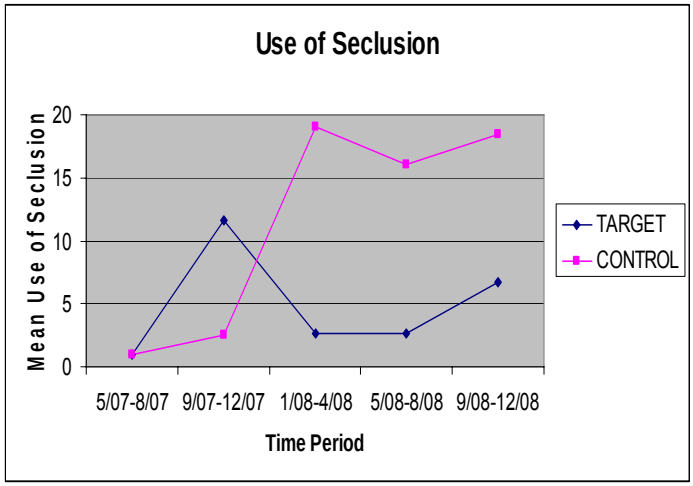
Results

<u>TARGET vs. Treatment As Usual Analysis</u>

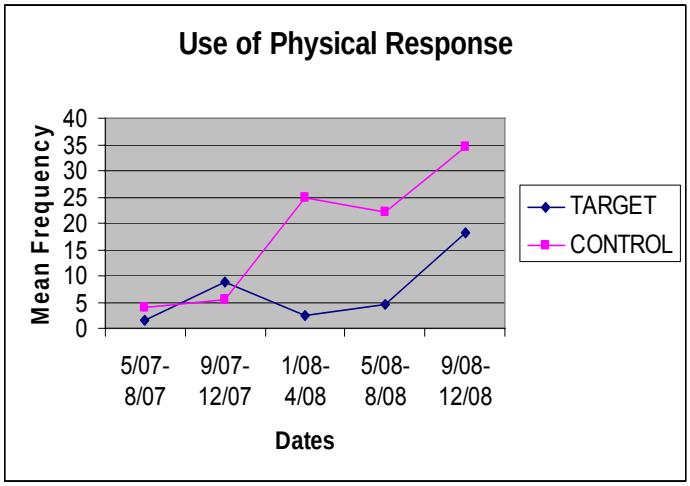
Use of Safety Interventions. To examine trends in the use of safety interventions, 2007 data (pre-TARGET introduction) were compared to 2008. As evidenced by Graph 1, while both groups used physical response at the same rate at the beginning of 2007, over time the TAU group has used the intervention at a rate five times that of the TARGET group. A similar trend emerges with the number of menacing threats made by youth and the use of seclusion (which appear strongly correlated). As shown in Graph 2, overtime the TAU group used seclusion at a rate six times that of the TARGET group. Additionally, the TARGET group evidenced a continued reduction in the use of seclusion for eight months following the introduction of the intervention. The increased use

of physical response and seclusion over the last quarter in both the TARGET and TAU groups may be due to seasonal issues associated with the holidays, and not because of the interventions themselves. It should be noted that improvements in the TARGET group were evidenced only after the introduction of the intervention in February of 2008.

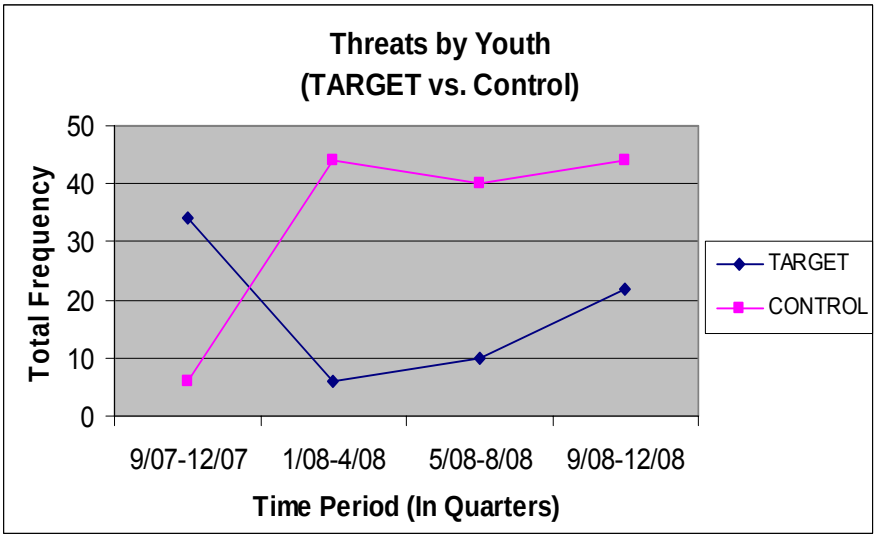
Graph 1. Use of Seclusion



Graph 2. Use of Physical Response



Graph 3. Threats by Youth



Symptom and Resiliency Measures. As shown in Table 1, significant group x time differences were found on the Hopefulness (F=8.78, p<.001) and Service Satisfaction factors (F=3.81, p<.05) of the Ohio Scales, and Depression as measured by the MFQ (F=3.57, p<.05), with TARGET experiencing significantly greater improvement over time than TAU. Significant time effects were also demonstrated on a number of measures, indicating children noticeably improved over time in both groups. Specifically, improvements over time were noted in the Problem Severity (F=3.44, p>.05) and Service Satisfaction (F=3.44, p<.05) factors of the Ohio Scales, Post Traumatic Stress Disorder (PTSD) (F=3.43, p>.05), and Anxiety Disorder (F=29.86, p>.001).

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

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					
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*

Individual Site Analysis

Paired-sample t-tests were conducted to compare the treatment sites over the two time periods. As shown in Table 2, the facilities improved significantly in different areas. At ORVJCF clients evidenced significant reductions in Problem Severity (t=2.23, p>.05) and anxiety (t=2.82, p>.001); CJCF showed significant progress in reducing anxiety (t=2.37, p>.05); IRJCF showed improvement in their youths' perceived Hopefulness (t=3.56, p>.05) and anxiety (t=3.19, p>.001); and both SJCF and MAJCF enhanced client Satisfaction with services (t=11.00, p>.05; t=6.42, p>.05).

Table 2.
Facility Pretreatment to Posttreatment time effects

Measure	T1	T2	T
OHIO SCALES-PROBLEM SEVERITY			
SJCF	37.75 (36.79)	41.00 (23.16)	.32
MAJCF	59.00 (20.98)	40.33 (29.56)	1.31
IRJCF	30.20 (22.95)	26.00 (18.20)	.58
CJCF	38.80 (22.20)	35.46 (27.30)	.49
ORVJCF	33.75 (21.26)	22.33 (12.31)	2.23*
OHIO SCALES-HOPE			
SJCF	12.00 (5.65)	15.00 (8.48)	1..50
MAJCF	12.33 (10.40)	16.33 (9.29)	1.30
IRJCF	13.90 (2.68)	18.00 (3.01)	3.56*
CJCF	16.73 (4.00)	15.60 (4.54)	.72
ORVJCF	15.08 (3.96)	13.58 (4.29)	.76
OHIO SCALES-SERVICE SATISFACTION			
SJCF	10.50 (3.53)	16.00 (4.24)	11.00*
MAJCF	10.00 (6.24)	19.33 (5.03)	6.42*
IRJCF	18.10 (6.26)	20.70 (3.40)	1.09
CJCF	18.40 (4.70)	16.46 (6.36)	-1.01
ORVJCF	14.33 (4.67)	16.25 (5.39)	.88
OHIO SCALES-FUNCTIONING			
SJCF	62.00 (10.89)	51.25 (21.91)	-1.36
MAJCF	56.33 (9.29)	56.00 (14.73)	-.08
IRJCF	59.20 (11.20)	61.00 (7.39)	.48
CJCF	54.90 (11.25)	49.66 (20.40)	-1.23
ORVJCF	59.60 (9.92)	53.16 (18.11)	-1.22
NEGATIVE MOOD REGULATION-			
SJCF	90.00 (9.57)	91.83 (9.04)	.33
MAJCF	85.50 (11.90)	85.50 (10.53)	.00
IRJCF	97.00 (12.36)	96.00 (11.54)	-.43
CJCF	94.46 (13.85)	95.00 (15.38)	.35
ORVJCF	98.55 (14.69)	94.22 (14.18)	-1.96
PTSD-			
SJCF	45.50 (15.77)	32.50 (10.63)	2.32
MAJCF	49.50 (7.77)	36.50 (21.92)	1.30
IRJCF	45.09 (16.20)	45.45 (23.46)	-.06
CJCF	47.27 (12.53)	37.36 (22.46)	1.30
ORVJCF	45.12 (9.73)	40.62 (17.07)	.96
DEPRESSION			
SJCF	8.00 (5.19)	5.66 (6.65)	.53
MAJCF	17.66 (9.07)	11.33 (4.93)	1.70
IRJCF	8.00 (4.26)	8.70 (5.20)	-.43
CJCF	7.66 (4.27)	11.83 (8.70)	-1.77
ORVJCF	6.62 (3.46)	8.12 (5.30)	-.71
ANXIETY DISORDER			
SJCF	21.25 (12.41)	8.50 (14.88)	1.79
MAJCF	29.50 (24.31)	8.83 (12.96)	1.67
IRJCF	31.52 (13.88)	15.35 (17.87)	3.19**
CJCF	31.59 (12.21)	21.90 (21.02)	2.37*
ORVJCF	32.28 (15.28)	12.21 (17.84)	2.82**

Clinical Findings

While not all findings were statistically significant, most facilities evidenced clinically significant improvements in core treatment domains when comparing mean scores to the diagnostic clinical cutoff scores.

TARGET had superior clinical outcomes when compared to TAU on scores for depression, PTSD, anxiety, and perceptions of hope and optimism (clinical cutoff scores are denoted by the **bold line** on each graph). As shown in Chart 4, mean scores on the MFQ for TARGET reduced over time (M=8.62), while the TAU group experienced an increase (M=10.35). The MFQ diagnostic cutoff score is 8, suggesting TARGET reduced depression symptoms to a level close to the diagnostic cutoff. Symptoms of anxiety reduced significantly for both groups. As evidenced by Chart 5, the mean scores on the SCARED for TARGET (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). While the TAU group (M=38.73, mean difference=-2.62) evidenced reductions near the diagnostic cutoff score of 38, the TARGET group (M=41.35, mean difference=-4.35) reduced symptom scores further over time. Finally, improvements in youths' perceptions of hope and optimism were higher in TARGET (M=10.62) over time as compared to TAU (M=12.80) (Chart 7). The Ohio Scales Hopefulness measure is reversed scored, meaning lower scores suggest improvement, with scores higher than 10 indicating the existence of a mental illness.

Chart 4.
Depression Symptoms Over Time

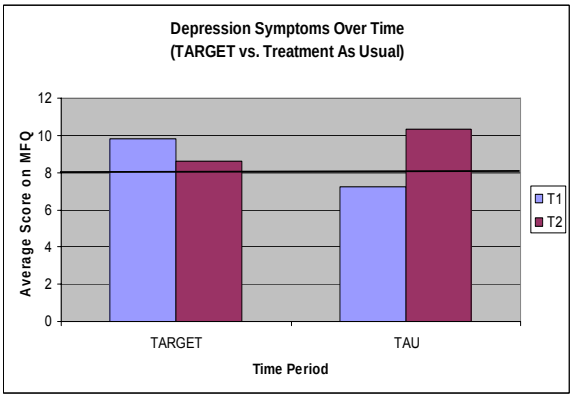


Chart 5.
Anxiety Symptoms Over Time

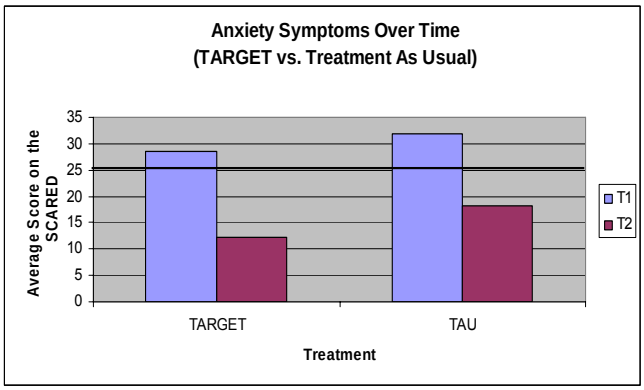


Chart 6.
PTSD Symptoms Over Time

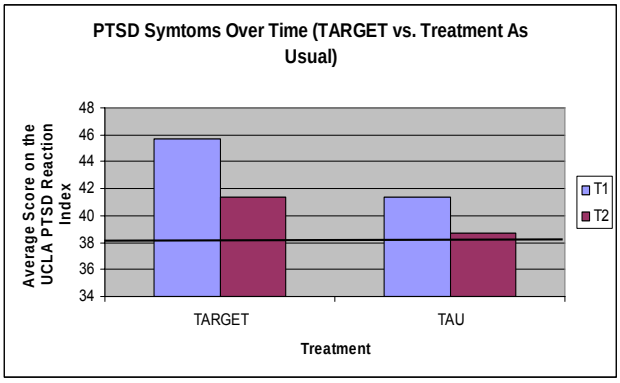
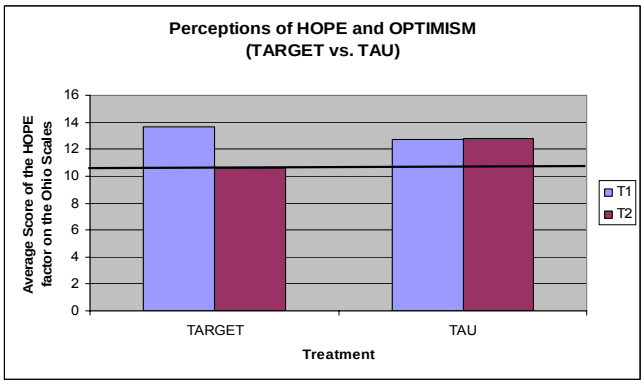


Chart 7.
Perception of Hope and Optimism Over Time



DISCUSSION

Preliminary results suggest that TARGET is superior to Treatment As Usual (TAU) in producing improvements in perceived hope and optimism, depression, and service satisfaction over the course of the first two time periods. Additionally, participants receiving TARGET had greater clinical improvement in depression, anxiety, mood regulation, 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. While this study did not use a randomized sample, these findings support the continued use of TARGET in DYS facilities. One limitation of the study was that the Functioning factor of the Ohio Scales had less than optimal performance. The Functioning scale includes items that are not as relevant to detained youth, such as improved friend and dating relationships, earning money, and participating in hobbies, which are all activities geared more toward a community sample. These items artificially reduced the functioning scores for study participants and therefore should be interpreted with caution. Additionally, use of safety interventions increased over the last quarter in both groups during the holiday season. This finding suggests a need to examine different ways to address feelings of isolation and loneliness for detained youth who are separated from their immediate families during the holidays.