

THE ROLE OF SANDPLAY THERAPY IN
THE TREATMENT OF ADOLESCENTS AND
YOUNG ADULTS WITH CO-OCCURRING
SUBSTANCE USE DISORDERS AND TRAUMA

Lorraine Razzi Freedle, Deborah B. Altschul & Agata Freedle

Hilo, Hawai'i; Albuquerque, New Mexico; Columbia, Missouri

*Lorraine Razzi
Freedle is a
Teaching Member
of STA & ISST;
Founder, BEAR
Project; Pediatric
Neuropsychologist;
Research Editor,
Journal of Sandplay
Therapy.*

*Deborah B. Altschul
is the Deputy
Director of the
University of New
Mexico Department
of Psychiatry and
Behavioral Sciences
Division of
Community
Behavioral Health.*

*Agata Freedle is a
doctoral student
in developmental
psychology at
the University of
Missouri. Recipient
of award by the
American Society of
Psychology and Law.*

Background

An alarming rate of youth deaths by unintentional drug overdose caused one community to take a hard look at its problem with opioid addiction. A Senate Memorial (56, 2011) was issued to study the problem and to develop a comprehensive statewide plan for the treatment of opioid and other substance addictions for young people deemed most affected by substance use and abuse (ages 14-24). The plan called for the development of a service model that was culturally-competent, trauma-informed and recovery-oriented, using System of Care principles (S. Memorial 56, 2011). In response to this Memorial, a comprehensive treatment program was developed entitled: Bonding through Experiential Adventures in Recovery (BEAR). BEAR sought to promote recovery and resiliency in adolescents and young adults through an innovative and research-informed approach. BEAR incorporated the Matrix Model (an intensive outpatient treatment approach for substance abuse and dependence), experiential therapies (adventure therapy, sandplay therapy, art therapy) and recovery management. This article highlights results from an independent program evaluation conducted by the University of New Mexico on BEAR, including surprise findings related to sandplay therapy.

Literature Review

There are increasing clinical and public health concerns regarding the high rates of substance abuse and trauma exposure among adolescents (CDC, 2014). Research indicates a strong association between a history of trauma and substance use problems (Bujarski et al., 2012; Blumenthal et al., 2008; Garald, Pettus-Davis & Howard, 2013; Smith, Blumenthal, Badour &

Feldner, 2010). Traumatic event exposure has been linked to elevated illicit substance use and increased likelihood of meeting criteria for substance abuse disorder (Blumenthal et al., 2008). Moreover, the likelihood of having a substance use problem is positively associated with number of traumatic event exposures (Blumenthal, et al., 2008), highlighting the importance of understanding and incorporating treatment for trauma-related symptoms and co-occurring substance abuse when working with youth with mental illnesses (Breslau, Davis & Schultz, 2003; Jacobsen, Southwick & Kosten, 2001). Research also shows that youth with co-occurring substance use problems and traumatic stress exhibit greater clinical severity, functional impairment and service utilization compared with youth with only one of these conditions (Jaycox, Ebener, Damesek & Becker, 2004; Suarez, Belcher, Briggs & Titus, 2012). Thus, treatments that are singularly focused may not adequately address the complex needs of this vulnerable and high-risk youth population (Suarez et al., 2012).

Many intensive outpatient treatment programs utilize cognitive behavioral therapy (CBT) to teach recovery skills. Despite empirical support for CBT, individuals who have experienced trauma have higher rates of treatment dropout and treatment non-response (Schottenbauer, Glass, Arnkoff, Tendick & Gray, 2008), indicating that additional interventions are needed to engage youth with trauma in the treatment process.

Research in neuroscience indicates that trauma is imprinted in the implicit memory system (Schoore, 2001), subcortical brain structures (van der Kolk, 2002; Perry, 2009), and the body (van der Kolk, 1996) outside of conscious awareness. Therefore, effective trauma treatments must target unconscious processes, provide direct access to sensory and body-based experiences, and reprocess these in the context of relational safety (Schoore,



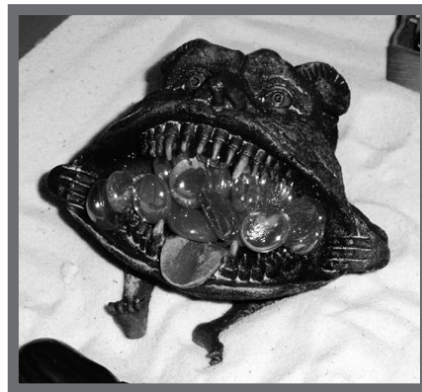
2014; Levine, 2010). In order to properly address the complex clinical needs and difficulties with engagement of young people with co-occurring trauma and substance use disorders, BEAR included adventure based therapy, sandplay therapy, art therapy, and recovery management, in addition to the Matrix Model.

Adventure based therapy (AT) is an activity based, experiential modality used to promote client change by engaging in kinesthetic interventions (Gass, Gillis & Russell, 2012). It has been used as an alternative treatment for youth who are not responding to other treatment options or those not receptive to traditional counseling. AT has been shown to be effective in reducing clinically severe symptoms in adolescents in residential and wilderness settings as well as community based samples (Gas & Gillis, 2010; Harper & Russell, 2008; Tucker, Javorski, Tracy & Beale, 2013). AT has also been found to be effective for use with youth with severe emotional or behavioral problems, and a history of trauma and/or substance abuse (Ross, 2003; Harper & Russell, 2008).

Sandplay therapy is a cross-cultural, non-directive model of psychotherapy founded by Dora Kalff (1980) with roots in play therapy, Jungian psychology, and contemplative practice. The multi-sensory, relational and symbolic nature of sandplay facilitates access to the body and neurocognitive resources that support healing and psychological development in children and adults who have experienced trauma (Freedle, 2007, 2013, 2014). Sandplay therapy, along with art therapy and other sensory-based, expressive methods have been identified as a best “trauma-informed practice” with children and adolescents (Steele & Kuban, 2011; Steele & Malchiodi, 2012; Freedle, 2012). Outcomes studies have validated the effectiveness of sandplay in reducing behavioral symptoms in children and adolescents experiencing emotional distress, including those diagnosed with PTSD and Acute Stress Disorder (von Gontard, 2010).

Lennihan (2004) found that sandplay therapy supports the recovery process of people with alcohol and drug addiction by improving their capacity for self-regulation and reflection. Lennihan highlights the archetypal nature of addiction and offers sandplay as a method that addresses spiritual and archetypal dimensions of the psyche, critical in the treatment of addiction.

The recovery paradigm recognizes multiple pathways toward personal recovery and calls for empowerment, cultural-sensitivity and community-based supports for people in recovery (White, Kurtz & Sanders, 2006). Therefore, in addition to



experiential modalities BEAR incorporated recovery management services to help young people set personal recovery goals and access a variety of community resources to reach their goals.

The Matrix Model (Rawson et al., 2005) is an evidence-based approach for substance abuse and dependence that includes cognitive behavioral therapy, contingency management, psychoeducational, and motivational interviewing techniques. The model is delivered over 16 weeks primarily in a structured group setting. Groups include early recovery skills, relapse prevention, psychoeducation, social support, and participation in the 12-step community. Individual counseling and urine and breath testing are also part of the model.

The Matrix Model addresses critical issues related to addiction and provides education for family members. Several studies (Rawson et al., 1995, 2002 & 2004) found that participants were significantly more likely to complete treatment when compared to individuals receiving treatment as usual, and participants on average produced significantly more drug-free urine samples. Although the State endorsed the Matrix Model, young people found it hard to engage in the program because of lack of interest and too many worksheets. Local providers reported that the model afforded little flexibility to address individualized needs resulting in high dropout rates, particularly among youth with traumatic histories and complex presentations.

The current study sought to investigate the effectiveness of BEAR and to explore the role of sandplay therapy in the context of this treatment program. It was hypothesized that by incorporating sandplay, other experiential therapies, and recovery-oriented community support with the Matrix Model engagement in treatment could be increased and complex needs more effectively addressed. It was predicted that through participation in BEAR, young people would improve daily functioning by reducing the severity of their substance abuse problem and their distress level associated with trauma exposure. The results of this study are important as they can provide insight



into the utility of sandplay therapy and other interventions for adolescents and young adults with co-occurring substance use problems and trauma.

METHODS

DESIGN

A mixed methods quasi-experimental research design was used in this study including quantitative and qualitative methods. Participants at two sites took part in a 16-week treatment program that included Matrix Model, experiential therapies, and recovery management. Data was collected at approximately 2-month intervals at admission, midway through treatment and at discharge. The majority of the quantitative data was collected via pen-and-paper surveys that were distributed to participants by the clinic receptionist as they waited for their scheduled appointment. The clinic receptionist received extensive training on the handling of data, and the need for confidentiality. One instrument (CAFAS) was completed independently by the primary clinician at each two month interval. Qualitative data was collected by researchers via focus groups following the ending of BEAR from youth, parents and staff. Focus group notes were analyzed using grounded theory, with three steps of coding including; identification of concepts in each data set, identification of themes within each data set and the creation of categories across focus groups.

PARTICIPANTS

Participants included youth aged 14-24 years old with a diagnosed substance abuse or dependence disorder. Individuals younger than 14 years old were excluded from the study, as were those who did not meet criteria for



having a substance abuse or dependence disorder, as determined in the clinical intake.

Twenty two participants took part in the study. The sample was predominately male (72.7%, $n=16$) and Hispanic (50%, $n=11$) with a mean age of 17.55 ($SD=1.79$). Out of the total sample, five participants were young adults (18-24 years old), completing questionnaires designed for that population, and the remainder were 14-17 years old. Prior to treatment, 36.4% ($n=8$) participants had dropped out of high-school, 36.4% ($n=8$) had low attendance or showed behavioral problems at high-school, and 18.2% ($n=4$) were in a GED program.

All of the participants were diagnosed with a substance use disorder, with all but one (21 out of 22 youth) found to have a diagnosis of substance dependence including; Polysubstance Dependence (23%, $n=5$), Opioid Dependence (23%, $n=5$), Alcohol Dependence (18%, $n=4$), Cannabis Dependence (18%, $n=4$), Other Substance Dependence (9%, $n=2$), and Cocaine Dependence (5%, $n=1$). The majority of the participants (20 out of 22 youth) were found to have a dual diagnosis of substance use disorder and a mental health diagnosis.

MEASURES

Trauma

In order to establish that the participants had experienced a traumatic event prior to the start of the treatment, participants were asked to complete the UCLA Post Traumatic Stress Disorder Reaction Index (UCLA PTSD-RI; Steinberg, Brymer, Decker & Pynoos, 2004) and the Adverse Childhood Experience (ACE) questionnaire (Felitti et al., 1998). UCLA PTSD-RI (Steinberg et al., 2004) is a three-part youth self-report assessment tool that was used only to screen for exposure to traumatic events. The UCLA PTSD Reaction Index includes 14 questions about various types of trauma exposure, has been used in many research studies in diverse populations and settings, and has strong psychometric properties. This instrument was only administered at intake and data was used as a dichotomous demographic variable.

The ACE questionnaire was adapted from a large epidemiological study (Dube et al., 2003; Felitti et al., 1998) and was used to retrospectively assess forms of abuse, neglect, and household dysfunction in the current study. Previous studies have found that the retrospective reports of ACE had good to excellent test-retest reliability (Dube et al., 2003). In addition, the measures used to assess ACE were highly interrelated and correlated. Four or more positive ACE responses were typically observed as the threshold marking high adverse childhood experience exposure linked to significantly increased likelihoods of adverse adult health outcomes (Edwards, Holden, Felitti, Anda, 2003; Felitti et al., 1998). The ACE score has also been correlated with the risk of drug initiation from early adolescence into adulthood and to problems

with drug use, drug addiction, and parental drug use (Dube et al., 2003). This instrument was only administered at intake and data was used as a dichotomous demographic variable.

Substance Use

In order to establish that the youth in this sample had substance abuse or dependence prior to start the treatment, participants were asked to complete the Substance Abuse Subtle Screening Inventory (SASSI; Miller, 1985, 1999). The SASSI is a brief, easily-administered psychological screening measure available in separate versions for adults (SASSI-3) and adolescents (SASSI-A2). SASSI-3 and SASSI-A2 help identify individuals who have a high probability of having a substance use disorder with an overall empirically tested accuracy of 93 and 94 percent respectively (Miller, 1985, 1999). Both versions include questions directly querying substance use and negative consequences as well as several subtle items that identify some individuals with alcohol and other drug problems who are unwilling or unable to acknowledge substance misuse. This instrument was only administered at intake to establish the existence and severity of substance use disorder.

Distress Symptoms

Distress symptoms were measured via the Youth Outcome Questionnaire (Wells, Burlingame & Rose, 2003) total scores and subscale scores. Three versions of the questionnaire were used: Y-OQ completed by parents, the Youth Outcome Questionnaire Self-Report (Y-OQ-SR) completed by participants under age 18, and the Outcome Questionnaire (OQ-45; Lambert, Kahler, Harmon, Burlingame & Shimokawa, 2011) completed by participants who were over 18 years old. The three assessments were designed for repeated measurement of client progress throughout treatment. Research shows sufficient concurrent and construct validity (Lambert et al., 2011) and internal consistency (from .70 to .93 on adult and .95 for adolescent version) and test-retest reliability estimates (from .78 to .84 on OQ and .89 on YOQ; Ridge, 2009).

For the purposes of this study the Interpersonal Distress scale was used, which assesses change in emotional distress including anxiety, depression, fearfulness, hopelessness and self-harm. Similarly, on OQ-45 (Lambert et al., 2011) the Symptom Distress scale was used, which focused primarily on symptoms of anxiety and depression. Moreover, item analysis on both measures was conducted on specific questions related to substance abuse.





Daily Functioning

Child and Adolescent Functional Scale (CAFAS; Hodges, 1997) is a clinician-completed instrument that assesses the degree of impairment in youth with emotional, behavioral, psychiatric or substance use problems. The CAFAS includes eight life domains; At School, At Home, in the Community (delinquency), Behavior Towards Others, Moods/emotions, Self-Harm, Substance use, and Thinking (assessing irrationality). A total score and subscale scores can be generated with higher scores indicative of greater impairment in day-to-day functioning. The CAFAS is demonstrated to be a robust, psychometrically sound measure with high internal consistency, interrater reliability, test-retest reliability and concurrent and predictive validity.

Engagement

Participant engagement and experiences with BEAR were measured via focus groups that occurred following the completion of the treatment. This semi-structured survey was developed collaboratively by the research team and clinical staff. Researchers met with a group of youth, a group of parents, and a group of staff at each of the two sites, for a total of 6 focus groups. Data was analyzed using grounded theory.

PROCEDURE

Prior to treatment, histories of trauma and substance use were assessed via the UCLA PTSD-RI, ACE and SASSI-A2 or SASSI-3. All other instruments were completed prior to the treatment start, two months into the treatment, and at discharge. The BEAR program consisted of 16 weeks of Matrix Model intensive outpatient treatment, experiential therapies and recovery-oriented support averaging 10.5 hours per week of total treatment per participant. The following interventions were included with the Matrix Model:

Art therapy was incorporated 1-2 times per week in the group sessions, and in individual counseling sessions as desired.

Group problem-solving activities were conducted addressing relapse prevention skills twice per month.

Individual sandplay therapy sessions were conducted every 1-2 weeks by therapists trained in Kalfian sandplay. (Participants completed an average of 9 sessions over the course of treatment.)

Outdoor adventure days and/or drug-free outings took place monthly.

Recovery management services were offered throughout the course of treatment. (Participants received an average of 2.4 hours per week.)

Consistent with System of Care principles every effort was made to empower participants to make decisions about their recovery and to access supports to match their needs and preferences. Attendance varied for different program components and none of the participants were dropped from BEAR for non-attendance. All together, participants received an average of 180 total service hours at one site and 145 total service hours at the other site over the 16-week period.

DATA ANALYSIS

Means, standard deviations and descriptive statistics were calculated to verify participants' trauma exposure and presence of SUD. One-way repeated measures ANOVAs were used to analyze the changes in client scores across the data collection points. Also, non-parametric Friedman's test, with post-hoc Wilcoxon Rank Sum tests to explore significant findings, were used to analyze participants CAFAS scores and OQ scores. As noted earlier, the data collected via focus groups was analyzed using grounded theory.

RESULTS

Trauma

Analysis of the participant responses on the UCLA PTSD-RI indicated that out of the twenty completed questionnaires for this measure most of the participants ($n=16$) had exposure to trauma with 64% reporting 3 or more incidents. Most frequently reported traumatic events indicated by the participants were: hearing about the violent death or serious injury of a loved one (68.2%, $n=15$); seeing someone being beaten up, shot at or killed (63.6%, $n=14$); being beaten up, shot at or threatened to be hurt badly (54.5%, $n=12$) and being in a bad accident (45.5%, $n=10$). Out of the twenty-one completed ACE questionnaires, the average score of participants was 3.3 ($SD=2.97$), indicating a moderate severity for the entire sample (Dube et al., 2003). The most common childhood adverse experiences reported by the participants were: parents' divorce or separation (68.2%, $n=15$); living with a problem drinker (54.5%, $n=12$) and being sworn at, put down or humiliated and feeling afraid to be physically hurt (31.8%, $n=7$).

Substance Use

Based on the SASSI-A2 and SASSI-3, 68.2% ($n=15$) of the entire sample showed a high probability of severe SUD, and 27.3% ($n=6$) showed high probability of SUD. Furthermore, at baseline the youth, their parents and the clinician reported high concerns regarding participants' substance use patterns and behaviors associated with it as indicated by Y-OQ, Y-OQ-SR, OQ and CAFAS. A Friedman Test was conducted to compare the scores on the Y-OQ, Y-OQ-SR and OQ items related to substance use and the CAFAS substance use scale across the treatment. The result of the test suggested that there were statistically significant differences in responses of the young adult participants (ages 18-24) to the OQ item "I feel annoyed by people who criticize my drinking" ($p=.018$) and the item "I have trouble at work/school because of my drinking or drug use" ($p=.016$) over the three time periods. Comparing the mean ranks for the three sets of scores, it appears that there was steady decrease of perceived severity regarding how daily functioning of the young adult participants was affected by their drinking/drug use (see Table 1 for mean ranks).

Similarly, the results of the Friedman test suggested that the adolescent participants (ages 14-17) reported reduced use of alcohol and drugs over the three periods of time ($p=.042$) as indicated by statistically significant changes in responses to the YOQ-SR item "I use alcohol and drugs". No significant difference was observed on parent reports of the adolescents on the YOQ for the same item. There were no parent reports completed for the young adult participants.

Moreover, the Friedman test results indicated that there were significant decreases in scores on the CAFAS substance use subscale ($p=.001$) over the three time periods for both adolescents and young adults signifying that clinicians ranked participants' substance use lower over the course of the treatment (see Table 1).

Table 1

Mean ranks for the OQ and the YOQ-SR substance abuse items and CAFAS Substance Use subscale for baseline, mid-treatment and discharge.

Questionnaire	Time Period		
	Baseline	Mid-Treatment	Discharge
CAFAS SU	2.39	2.14	1.48
OQ.26*	2.80	2.00	1.20
OQ.32**	3.00	1.30	1.70
YOQ-SR.22***	2.50	1.88	1.62

Note. Child and Adolescent Functional Scale (CAFAS) is from Hodges, (1997); Outcome Questionnaire (OQ-45) is from Lambert et al., (2011); Youth Outcome Questionnaire Self-Report (Y-OQ-SR) is from Wells et al., (2003).

*Item 26 is "I feel annoyed by people who criticize my drinking."

**Item 32 is "I have trouble at work/school because of my drinking or drug use."

***Item 22 is "I use alcohol and drugs."

Distress Level

One-way repeated measures ANOVAs were conducted to compare the scores on the total Y-OQ and Y-OQ-SR at baseline, two months into the treatment and after the treatment was completed. The means and standard deviations are presented in Table 2. There was significant effect for time for both questionnaires [Wilks' Lambda=.266, $F(2,8)=11.056$, $p=.005$, multivariate partial eta squared=.116 for Y-OQ and Wilks' Lambda=.219, $F(2,11)=19.583$, $p<.001$, multivariate partial eta squared=.195 for Y-OQ-SR]. The effect size was Cohen's $d=0.87$. Therefore, the ANOVA results indicate that over time adolescent participants showed significantly lower scores on the outcome questionnaire total score, indicating a significant decrease in over all symptoms. Due to the small sample size for the young adults only descriptive statistics were analyzed for OQ (see Table 2). The reported OQ means suggest that there was a sizable decrease of overall symptoms over three time periods.

Similarly, ANOVAs were conducted to compare the scores on the Interpersonal Distress scale of the Y-OQ and Y-OQ-SR at three data collection points. There was significant effect for time for all three questionnaires [Wilks' Lambda=.25, $F(2,8)=11.999$, $p=.004$, multivariate partial eta squared=.120 for Y-OQ; Wilks' Lambda=.241, $F(2,11)=17.363$, $p<.001$, multivariate partial eta squared=.188 for Y-OQ-SR]. The effect size was Cohen's $d=1.28$ (see Table 3 for specific means and standard deviations). Therefore, the ANOVA results indicate that over time adolescent participants showed significantly lower scores on the Interpersonal Distress scale of the outcome questionnaire. Additionally, the OQ means suggest that distress symptoms for the young adult participants decreased over the course of the treatment (see Table 2).

Additionally, distress level of all participants was assessed via CAFAS reports. Significant improvement over the three time periods was shown on the Mood subscale of CAFAS ($p<.001$), indicating that participants showed significant improvement in modulation of mood.

Table 2

Descriptive Statistics for Y-OQ, Y-OQ-SR and OQ Total Scores for baseline, mid-treatment and discharge.

	Time Period		
	Baseline	Mid-Treatment	Discharge
Questionnaire	Mean (SD)	Mean (SD)	Mean (SD)
Y-OQ ($n=10$)	84 (35.12)	81.30 (29.3)	54.40 (32.81)
Y-OQ-SR ($n=13$)	86 (35.82)	65.92 (26.86)	47.23 (28.36)
OQ ($n=5$)	88.2 (29.39)	61(28.13)	36.80 (21.44)

Note. Youth Outcome Questionnaire (Y-OQ) and Youth Outcome Questionnaire Self-Report (Y-OQ-SR) is from Wells et al., (2003); Outcome Questionnaire (OQ-45) is from Lambert et al., (2011).

Table 3

Descriptive Statistics for Y-OQ, Y-OQ-SR and OQ Interpersonal and Symptoms Distress scale scores and CAFAS scores for Mood subscale for baseline, mid-treatment and discharge.

		Time Period		
		Baseline	Mid-Treatment	Discharge
Questionnaire	<i>n</i>	Mean (SD)	Mean (SD)	Mean (SD)
Y-OQ	10	26.4 (10.7)	26.3 (7.44)	17.80 (9.69)
Y-OQ-SR	13	26.23 (9.36)	21.77 (8.13)	15.77 (6.83)
OQ	5	46.8 (15.42)	33.6 (16.62)	17 (10.72)
CAFAS Mood	22	19.55 (4.86)	15.91 (6.66)	10 (9.26)

Note. Youth Outcome Questionnaire (Y-OQ) and Youth Outcome Questionnaire Self-Report (Y-OQ-SR) is from Wells et al., (2003); Outcome Questionnaire (OQ-45) is from Lambert et al., (2011); Child and Adolescent Functional Scale (CAFAS) is from Hodges, (1997).

Daily Functioning

The CAFAS Total scores and the CAFAS scores on Behavior, Home, School and Community subscales were analyzed to assess the degree of impairment in daily functioning for the participants prior, during, and post treatment. The Friedman test results suggested that there was significant decrease in clinician reported scores on the CAFAS total scores ($p < .001$) and all of the analyzed subscales ($p < .001$ for Behavior; $p = .002$ for Home; $p = .001$ for School and $p = .025$ for Community). Therefore, it appears that, as reported by clinicians, the youth's daily functioning has improved over the course of the treatment. While Home, School, and Behavior subscale scores decreased over each time period measured, the Community subscale score (measure of respect for the rights and property of others and conformity to laws) increased slightly at the first time period, indicated a slight worsening of symptoms in the early part of treatment before showing significant improvement post treatment. See Table 4 for specific rank means.

Table 4

Mean ranks for youth daily functioning assessed via CAFAS Total Scores and CAFAS Behavior, Home, School and Community subscales for baseline, mid-treatment and discharge.

Questionnaire	Time Period		
	Baseline	Mid-Treatment	Discharge
CAFAS Total	2.57	2.16	1.27
CAFAS Home	2.48	1.98	1.55
CAFAS School	2.41	2.07	1.52
CAFAS Community	2.09	2.25	1.66
CAFAS Behavior	2.70	1.89	1.41

Note. Child and Adolescent Functional Scale (CAFAS) is from Hodges, (1997).

Engagement

During the last week of the BEAR program, separate focus groups were completed with staff, parents, and youth in both locations. When asked “What about BEAR has been most helpful,” a theme emerged with youth endorsing sandplay therapy as most helpful with responses such: “Sandplay helps you express what you’re going through without saying it,” “Sandplay is great. You have your own place,” and “Sandplay has helped me realize my goals for the future.”

When youth were asked specifically about their experience with sandplay therapy very favorable comments were offered and included;

“Love it, great.” “Good and different.” “Everybody loves it.”

“Stories come out, makes you proud.” “Getting your feelings out.”

“I really enjoyed sandplay the most.” “Makes you use your imagination.”

“Expressed what I had in me.” “I really enjoyed this, it was so much fun!!!”

“It’s really fun because you can make your own world or how you view things and talk about it and see what things can be done.” “Calming.” “Extremely useful.”

“Very helpful, we were allowed to speak our mind.”

“Awesome, making a little world of your own, then being able to talk about what’s going on.”

In addition to endorsing sandplay therapy as the most helpful part of BEAR, the four themes that emerged with youth were that sandplay was really fun, calming, allows expression, and the concept that during sandplay “making your own world” was beneficial.

A theme that emerged with parents was that sandplay therapy was very beneficial, with responses such as; “The sandplay was a good outlet for my son and what he is dealing with,” “Good tool for trauma,” “Youth seem to be identifying with sandplay, getting a lot out of it,” and “My son says he really enjoys the sandplay therapy.”

When staff were asked specifically about their experiences with sandplay therapy, a primary theme emerged regarding a strong appreciation for sandplay with comments such as, “Amazing!! It has been an honor to witness the BEAR clients sandplay process,” and “Many of my clients looked forward to the sandplay therapy sessions every week and were excited to engage in conversation about their process,” thus indicating a high valuing of sandplay therapy. Other concepts that emerged from staff about sandplay therapy were that sandplay was creative, engaging, and helpful with trauma. Thus, sandplay was a critical component in the success of BEAR.

DISCUSSION

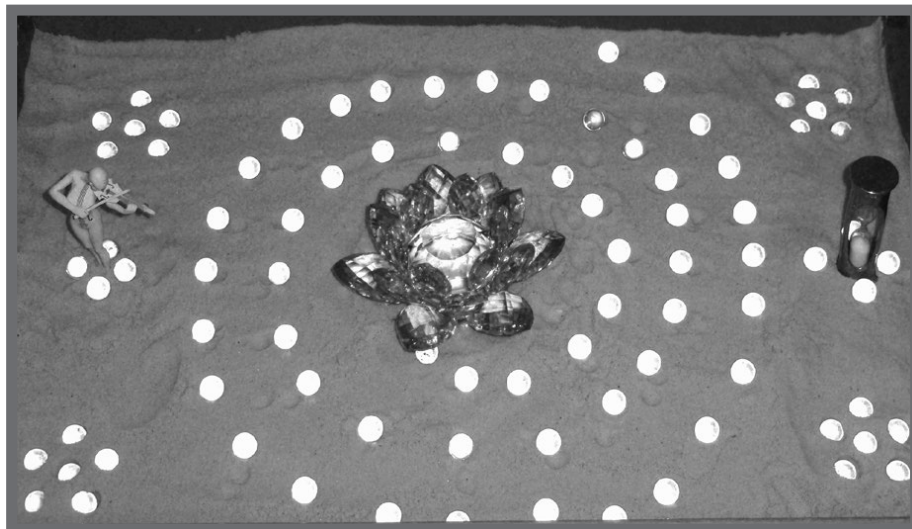
It was hypothesized that engagement in treatment could be increased and the complex clinical needs of adolescents and young adults with co-occurring substance use disorders and trauma could be effectively addressed by incorporating sandplay therapy, other experiential therapies, and recovery-oriented community support with an evidence-based intensive

outpatient program that used a cognitive-behavioral group approach. The BEAR program was developed to include all of the aforementioned treatment components. As predicted, results demonstrate that after 16-weeks of treatment, the youth who participated in BEAR significantly improved daily functioning at home, school, and in their community and reduced the severity of their substance use problem and symptoms of distress associated with trauma exposure.

Furthermore, in the focus groups youth enthusiastically endorsed sandplay therapy as the most helpful part of BEAR. Parents and staff also placed a high valuation on sandplay, leading the independent program evaluator to conclude that sandplay was a critical component in the success of BEAR.

The use of sandplay therapy with people in the active stage of addiction has been debated in the field of sandplay (Amatruda, Helm-Simpson, 1997; Lennihan, 2004); however, findings from this study suggest that sandplay therapy could play an important role in the treatment of youth with substance use disorders and co-occurring trauma. The stakes are high with this vulnerable and high-risk population. BEAR was developed in response to community outcry and legislative action over rising death rates in young people from drug overdose, a nationwide epidemic (CDC, 2015). If adding sandplay therapy to a comprehensive treatment program improves engagement, perhaps more young people may be motivated to remain in treatment long enough for positive change and lives could be saved.

In this study the youth's comments about sandplay therapy yielded themes of sandplay being "really fun," "calming," and a means of self-expression. The youth especially liked using their imagination to create their "own world." The staff spoke of the youth's deep trauma and pain finding expression through their sandplay process. These findings are consistent with the clinical work of Lennihan (2004) who found that for people with alcohol and drug



addiction, sandplay improved self-regulation and provided access to archetypal psychic struggles that needed expression to be transformed. Likewise, Merlino (2008) found sandplay provided people with drug addiction an alternate means of expression of tremendous pain that played out as destruction of their bodies during their addiction.

Moreover, Freedle (2012) presented sandplay as a trauma-informed practice and described four aspects of sandplay particularly relevant in the treatment of trauma including relational safety, multi-sensory processing, symbolic expression of the trauma narrative, and facilitation of the self-healing response. There is growing attention to the neuroscience of sandplay therapy (Badenoch, 2010; Kalf, M., 2013; Freedle, 2013, 2014), particularly how sandplay heals trauma on a neurobiological and psychological level (Freedle, 2012, 2013, 2014). Perhaps sandplay therapy offered something of importance to the youth that calmed their nervous system and helped them to express and process their traumatic experiences in ways unavailable to them in other aspects of the treatment program.

What is evident from this small sample size is that sandplay therapy and the other modalities used in the BEAR program appear to have a significant effect size, similar to other successful and very successful therapies. Future research is needed to see if this effect can be replicated, and with more studies, larger sample size, and control group comparisons. The role of sandplay therapy in the context of comprehensive treatment approaches with clinically complex populations could be further explored by comparing models that include sandplay therapy such as BEAR with models that do not such as the Matrix Model.

This study shows that sandplay therapy appears to have a positive impact on youth with co-occurring substance use disorders and trauma. Clinicians and treatment programs may benefit from incorporating sandplay into their practice, especially with high-risk and vulnerable youth populations, including those prone to drop out of treatment.





REFERENCES

- Amatruda, K. & Simpson, P.H. (1997). *Sandplay the sacred healing: A guide to symbolic process*. Taos, NM: Trance, Sand, Dance press.
- Badenoch, B. (2010). *The brain-wise therapist: A practical guide to interpersonal neurobiology*. New York: Norton.
- Bujarski, S.J., Feldner, M.T., Lewis, S.F., Babson, K.A., Trainor, C.D., Leen-Feldner, E., Badour, C.L., Bonn-Miller, M.O. (2012). Marijuana use among traumatic event-exposed adolescents: Posttraumatic stress symptom frequency predicts coping motivations for use. *Addictive Behavior, 37*, 53-59.
- Burlingame, G.M., Wells, M.G., Lambert, M.J., & Cox, J.C. (2004). *Youth outcome questionnaire (Y-OQ)*. In M.E. Maruish (Ed.), *the use of psychological testing for treatment planning and outcome assessment* (3rd ed., Vol.2, 235-274). Mahwah, NJ: Lawrence Erlbaum Associates.
- Blumenthal, H., Blanchard, L., Feldner, M.T., Babson, K.A., Leen-Feldner, E.W., Dixon, L. (2008). Traumatic event exposure, post-traumatic stress, and substance use among youth: A critical review of the empirical literature. *Current Psychiatry Reviews, 4*, 228-254.
- Breslau, N., Davis, G. C., Schultz, L.R. (2003). Posttraumatic stress disorder and the incidence of nicotine, alcohol, and other drug disorders in persons who have experienced trauma. *Archives of General Psychiatry, 60*, 289-294.
- Center for disease control and prevention. (2014). *Youth Risk Behavior Surveillance System*. Retrieved from: <http://www.cdc.gov/healthyyouth/alcoholdrug/>
- Center for disease control and prevention. (2015). *Injury prevention and control: Prescription drug overdose*. <http://www.cdc.gov/drugoverdose/epidemic/index.html>
- Dube, S.R., Felitti, V.J., Dong, M., Chapman, D.P., Giles, W.H., Anda, R.F. (2003). Childhood abuse, neglect, and household dysfunction and the risk of illicit drug use: The Adverse Childhood Experiences Study. *Pediatrics, 111*(3), 564-572.
- Edwards, V.J., Holden, G.W., Felitti, V.J., Anda, R.F. (2003). Relationship between multiple forms of childhood maltreatment and adult mental health in community respondents: Results from the adverse childhood experiences study. *American Journal of Psychiatry, 160*, 1453-1460.

- Felitti, V.J., Anda, R.F., Nordenberg, D., et al. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine*, 14 (4), 245-258.
- Freedle, L.R. (2007). Sandplay therapy with traumatic brain injured adults: An exploratory qualitative study. *Journal of Sandplay Therapy*, 17(2), 115-133.
- Freedle, L.R. (2012, May). *Sandplay and trauma-informed practice*. Presented at the Sandplay Therapists of America National Conference, Berkeley, CA.
- Freedle, L.R. (2013, August). *The mosaic mask: Neural integration, trauma and sandplay*. Presented at the 22nd International Congress for Sandplay Therapy (ISST), Venice, Italy.
- Freedle, L.R. (2014, June). *The Neurosequential Model of Therapeutics, sandplay, and traumatic grief: Somatosensory pathways to transformative healing*. Presented at the Neurosequential Model of Therapeutics (NMT™) Inaugural Symposium in Banff Center, Alberta, Canada.
- Hodges, K. (1997). *CAFAS manual for training coordinators, clinical administrators and data managers*. Ann Arbor, MI: Author.
- Garald, E.L., Pettus-Davis, C., Howard, M.O. (2013). Self-medication among traumatized youth: Structural equation modeling of pathways between trauma history, substance misuse and psychological distress. *Journal of Behavioral Medicine*, 36, 175-185.
- Gass, M.A., Gillis, L.H. (2010). Treating juveniles in a sex offender program using adventure based programming: A matched group design. *Journal of Child Sexual Abuse*, 19 (1), 20-34.
- Gass, M.A., Gillis, L.H., Russell, K. (2012). *Adventure therapy: Theory, research and practice*. New York: Routledge.
- Harper, N., & Russell, K. (2008). Family involvement and outcome in adolescent wilderness treatment: A mixed-methods evaluation. *International Journal of Child and Family Welfare*, 1, 19-36.
- Jacobsen, L.K., Southwick, S.M., & Kosten, T.R. (2001). Substance use disorders in patients with posttraumatic stress disorder: A review of the literature. *American Journal of Psychiatry*, 158 (8), 1184-1190.
- Jaycox, L.H., Ebener, P., Damesek, L., Becker, K. (2004). Trauma exposure and retention in adolescent substance abuse treatment. *Journal of Traumatic Stress*, 17 (2), 113-121.
- Kalff, D.M. (1980). *Sandplay: A psychotherapeutic approach to the Psyche*. Sigo Press.
- Kalff, M. (2013). Experience related case study: Like a masked ball. *Journal of Sandplay Therapy*, 22 (2), 99-110.
- Lambert, M.J., Kahler, M., Harmon, C., Burlingame, G.M., & Shimokawa, K. (2011). *Administration & scoring manual for the Outcome Questionnaire-45. 2*. Salt Lake City: OQ Measures.
- Lennihan, L. (2004). Sandplay and addictions: Patterns of archetypal initiation. *Journal of Sandplay Therapy*, 13(2), 145-152.
- Levine, P. (2010). *In an unspoken voice: How the body releases trauma and restores goodness*. Berkeley: North Atlanta Books.
- Merlino, M. (2008). Hidden bodies and revealing sands: The body of drug addicts in sandplay therapy. *Journal of Sandplay Therapy*, 17 (1), 31-47.
- Miller, G.A. (1985, 1999). *The Substance Abuse Subtle Screening Inventory (SASSI) Manual, Second Edition*. Springville: The SASSI Institute.
- Perry, B.D. (2009). Examining child maltreatment through a neurodevelopmental lens: Clinical applications of the Neurosequential Model of Therapeutics. *Journal of Loss and Trauma*, 14, 240-255.
- Rawson, R.A., Obert, J.L., McCann, M.J., Ling, W. (2005). *The Matrix Model Intensive Outpatient Alcohol and Drug Treatment Program: a 16-week Individualized Program*. Center City, MN: Hazelden.
- Rawson, R.A., Shoptaw, S.J., Obert, J.L., McCann, M.J., Hasson, A.L., Marinelli-Casey, P.J., Brethen, P.R. & Ling, W. (1995). An intensive outpatient approach for cocaine abuse treatment: The Matrix model. *Journal of Substance Abuse Treatment*, 12, 117-127.

- Rawson, R.A., Gonzales, R. & Brethen, P. (2002). Treatment of methamphetamine use disorders: an update. *Journal of Substance Abuse Treatment, 23*(2), 145-150.
- Rawson, R.A., Marinelli-Casey, P., Anglin, D.M., Dickow, A., Frazier, Y., Gallagher, C., Galloway, G.P., Herrell, J., Huber, A., McCann, M.J., Obert, J., Pennell, S., Reiber, C., Vandersloot, D., Zweben, J., the Methamphetamine Treatment Project Corporate Authors. (2004). A multi-site comparison of psychological approaches for the treatment of methamphetamine dependence. *Addiction, 99*, 708-717.
- Ridge, N.W., Warren, J.S., Burlingame, G.M., Wells, M.G., Tumbliin, K.M. (2009). Reliability and validity of the youth outcome questionnaire self-report. *Journal of Clinical Psychology, 65* (10), 1115-1126.
- Ross, S. (2003). The therapeutic effects of an adventure challenge program on the personal empowerment of women survivors of sexual trauma. *The Journal of Experiential Education, 25*(3), 350-361.
- Roussos, A., Goenjian, A.K., Steinberg, A.M., Sotiropoulou, C., Kakai, M., Kabakos, C., Karagianni, S., Manouras, V. (2005). Posttraumatic stress and depressive reactions among children and adolescents after the 1999 earthquake in Ano Liosia, Greece. *The American Journal of Psychiatry, 162* (3), 530-537.
- Senate Memorial 56, New Mexico Behavioral Health Collaborative, Opioid Dependence Core Group. (2011). Adolescent Opioid Addiction Treatment Study. Retrieved from: <http://www.nmlegis.gov/lcs/handouts/LHHS%20110211%20Adolescent%20Opioid%20Addiction%20Treatment%20Study%20by%20the%20NM%20Behaviorial%20Health%20Collaborative%20Opioid%20Dependence%20Core%20Group.pdf>
- Schore, A.N. (2001). The effects of relational trauma on right brain development, affect regulation, and infant mental health. *Infant Mental Health Journal, 22*, 201-269.
- Schore, A.N. (2014). The right brain is dominant in psychotherapy. *Psychotherapy, 51*(3), 388-97.
- Schottenbauer M.A., Glass, C.R., Arnkoff, D.B., Tendick, V., Gray, S. H. (2008). Nonresponse and dropout rates in outcome studies on PTSD: Review and methodological considerations. *Psychiatry 71*(2), 134-168.
- Smith, R.C., Blumenthal, H., Badour, C., Feldner, M.T. (2010). An investigation of relations between crystal methamphetamine use and posttraumatic stress disorder. *Addictive Behaviors, 35*, 625-627.
- Steele, W., Kuban, C. (2011). *Advancing trauma-informed practices*. Albion, MI: Starr Institute for training.
- Steele, W., Malchiodi, C. (2012). *Trauma Informed Practices for Children and Adolescents*. NY: Routledge/Taylor and Francis.
- Steinberg, A.M., Brymer, M.J., Decker, K.B., Pynoos, R.S. (2004). The University of California at Los Angeles post-traumatic stress disorder reaction index. *Current Psychiatry Reports, 6*(2), 96-100.
- Suarez, L.M., Belcher, H.M.E., Briggs, E.C. & Titus, J.C. (2012). Supporting the need for an integrated system of care for youth with co-occurring traumatic stress and substance abuse problems. *American Journal of Community Psychology, 49*, 430-440.
- Tucker, A.R., Javorski, S., Tracy, J., Beale, B. (2013). The use of adventure therapy in community-based mental health: Decreases in problem severity among youth clients. *Child Youth Care Forum, 42*, 155-179.
- Van der Kolk, B.A. (1996). *Traumatic stress: The effects of overwhelming experience on mind, body, and society*. NY: Guilford Press.
- Van der Kolk, B.A. (2002). Posttraumatic therapy in the age of neuroscience. *Psychoanalytic dialogues, 12* (3), 381-92.

- Von Gontard, A. (2010). Sandplay therapy study: A prospective outcome study of sandplay therapy with children and adolescents. *Journal of Sandplay Therapy, 19*(2).
- Wells, M.G., Burlingame, G.M., Rose, P.M. (2003). *Youth outcome questionnaire self-report*. Wilmington, DE: American Professional Credentialing Services.
- White, W.L., Kurtz, E., Sanders, M. (2006). *Recovery Management*. Great Lakes Addiction Technology Transfer Center. Chicago, IL.