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An Examination of a Gender-Specific and Trauma-Informed Training Curriculum: Implications for Providers

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Abstract

Residential group care facilities are experiencing an increase in the number of adolescent females in these facilities who have high rates of childhood sexual abuse. The mental health needs of this population are often unrecognized and not treated, which often results in re-victimization. Residential care agencies are actively seeking competent direct care staff members to work with females who have been sexually traumatized. However, gender-specific and trauma-informed training curricula for direct care staff members have lacked clarity and effective implementation. The purpose of this study was to evaluate a gender-specific and trauma-informed training curriculum for residential staff. It was hypothesized that participant knowledge score would be different after the training curricula in the treatment group; the pre knowledge score in the control group would remain the same after the treatment group; mean post knowledge would be different between the treatment group and control group; that there would be a significant difference of the post Survey of Knowledge scores between the treatment and control group; and that participant satisfaction score would be different after the training curricula in the treatment group. The participant scores showed some improvement prior to the training curriculum and there was a significant difference between the pre and post knowledge scores for the control group. While results showed that there was no significant difference between the scores of knowledge and retention between the treatment and control group, implications for counselors and recommendations for future studies were provided.

Keywords

Gender specific training, females, trauma, training programs

Residential group care systems are experiencing an increase in the number of adolescent females who have experienced traumatic events. A significant proportion of these females are involved in delinquent behaviors. According to the National Child Traumatic Stress Network residential group care systems are inadequately prepared in identifying and providing appropriate services to traumatized females (Hennessey, Ford, Mahoney, Ko, & Siegfried, 2004) . The mental health needs of this population are often unrecognized and not addressed while involved in residential programs which often results in re-victimization. It is imperative that the mental health and trauma issues are deemed important when working with females. Use of restraints and seclusion, and lack of staff training can cause re-victimization in sexually traumatized females. The review of research suggests that residential care agencies are actively seeking competent direct care staff members to work with females who have been sexually traumatized (Baerger, Lyons, Quigley, & Griffin, 2001). However, new employee training curricula for direct care staff members have lacked clarity and effective implementation strategies. Consequently, the effect of gender specific and trauma informed training is being considered.

It is estimated that 1 in 109 women will have some involvement in the secure care residential facilities (Staton & Leukefeld, 2001). For over 20 years there has been a significant increase in female involvement in the residential care facilities (U.S. Department of Justice, 2003). In the 1990's there was a 25% increased in the arrest of females for violent crimes (Hennessey, Ford, Mahoney, Ko, & Seigfried, 2004.) The numbers for females in the secure residential care facilities continues to rise in the twenty first century. In 2004, 30% of the arrests were female adolescents (Child Welfare and Information Gateway, 2006). Adolescent females have also shown an increase in violent assaults and drug related crimes compared to their counterparts. Between 1995-2004, there was a 29% increase in female juvenile drug offenses, while boys had an 8% decline (U.S. Office of Juvenile Justice and Delinquency Prevention, 2006). These alarming statistics has prompted a revamping of the residential care facilities regarding gender-specific treatment. Although there always have been females involved in residential group care facilities, boys have been the primary focus of existing research, theories, and treatment interventions (Goodkind, Ng, & Sarri, 2006).

Sexual traumatization is defined as the "effects of a child's premature and inappropriate experience with sexuality" (Brown, 2004, p.28). This is often through molestation, exposure to pornography, rape, incest, and other sexual assaults. Overall adolescents experience higher rates of victimization than adults (Menard, 2002). Adolescents who have histories of abuse and neglect are 59% more likely to be arrested in adolescence, 28% more likely to be arrested in adulthood, and 30% more likely to commit a violent crime (Acoca, 1998). It is estimated that up to 92% of young females in the residential care facilities have been victims of psychological, physical, and /or sexual abuse, with 56% reporting sexual abuse (Acoca, 1998).

Adolescent victims of sexual abuse and trauma often have significant mental and behavioral problems that often lead to delinquent behavior. Female victims are often diagnosed with substance abuse, posttraumatic stress (PTSD), borderline personality and dissociative disorders (Murray, 1993). Adolescent females also often report and suffer from symptoms of depression, anxiety, and, eating disorders. These females often present with severe psychiatric symptoms that warrant psychiatric hospitalizations (Acoca, 1998). Posttraumatic Stress Disorder has also been found to be prevalent in traumatized female offenders. In a study conducted in 1998, 48.9% of incarcerated females had experienced PTSD symptoms at the time of the study (Caufmann, Waterman, & Steiner, 1998).

Adolescent females entering residential facilities are at a higher risk of being re-traumatized. In a study conducted by the Accoa and Debel (1998) girls reported being emotionally, physically and sexually assaulted within the residential care facilities. The females complained that the staff used degrading and intimidating language while engaging with them. An alarming number of females complained of being watched by staff while taking showers (1998).

Purpose of the Study

The purpose of this study is to evaluate a Gender Specific and Trauma Informed training curriculum with direct care staff members. The study allowed participants to endorse items indicating retention of critical on the job interventions, knowledge gained and satisfaction with the training curriculum. Scores will be summarized to help determine the effectiveness of gender specific and trauma informed training curriculum. The expected outcome of the study is to evaluate the training curriculum; to impact the long-standing treatment disparity status of females involved in the residential care facilities; to explore the possibilities of etiological and explanatory frameworks not previously mined examined in the literature; to effectively present and address information on counselor education, multicultural counseling, and gender specific strategies.

Childhood Sexual Abuse

In the review of the research, it appears that there is not a collective definition of child sexual abuse (CSA). The definition differs in the inclusion of non-physical and physical touch. Cohen and Mannarino (1993) define sexual abuse as "sexual exploitation involving physical contact between a child and another person." According to the American Psychological Association (2001), CSA is not just limited to physical contact but the exposure to pornography, voyeurism. For the purpose of the paper, Child Sexual Abuse (CSA) will be defined as

> *"the employment, use, persuasion, inducement, enticement, or coercion of any child to engage in, or assist any other person to engage in, any sexually explicit conduct or simulation of such conduct for the purpose of producing a visual depiction of such conduct; or the rape, and in cases of caretaker or inter-familial relationships, statutory rape, molestation, prostitution, or other form of sexual exploitation of children,*

*Table 1. Age * Ethnicity Cross tabulation*

			Ethnicity				
			Euro American	African American	Hispanic American	Other	Total
age	22-25	Expected Count	1.1	3.6	.1	.1	5.0
		% of Total	.0%	10.0%	.0%	2.5%	12.5%
	26-30	Expected Count	1.4	4.4	.2	.2	6.0
		% of Total	5.0%	10.0%	.0%	.0%	15.0%
	31-35	Expected Count	1.6	5.1	.2	.2	7.0
		% of Total	2.5%	15.0%	.0%	.0%	17.5%
	36-45	Expected Count	2.0	6.5	.2	.2	9.0
		% of Total	7.5%	15.0%	.0%	.0%	22.5%
	46-55	Expected Count	2.3	7.3	.3	.3	10.0
		% of Total	2.5%	20.0%	2.5%	.0%	25.0%
	56-64	Expected Count	.7	2.2	.1	.1	3.0
		% of Total	5.0%	2.5%	.0%	.0%	7.5%
Total		Expected Count	9.0	29.0	1.0	1.0	40.0
		% of Total	22.5%	72.5%	2.5%	2.5%	100.0%

or incest with children" (Child Welfare and Information Gateway, 2006).

The prevalence for childhood sexual abuse has been difficult to collect due to the variations of the definitions, the sensitiveness of the subject, and underreporting (Goodkind, Ng, & Sarri, 2006). In one of the first reports of prevalence rates of childhood sexual abuse, it was found that 27% of women and 16% of men in the United States had been victims of sexual abuse before the age of 18 (Finklehor, Hotaling, Lewis, & Smith 1990). Although there is difficulty generating accurate information, it is agreed among professionals that CSA is a serious issue in the United States (American Psychological association, 2001). In the latest report by the U. S Children's Bureau (2004), it states that roughly 9% of the 899,000 maltreatment cases were for sexual abuse. The U. S. Department of Health and Human Services (2001) support the studies findings by reporting that girls were at higher risk of being victims of sexual abuse, with 12-15 years olds having the most threat (2.8 per1000). A youth who has been victimized once is at a higher risk for being a victim of a different type of abuse during that same year (Finkelhor, Omrod, Turner, & Hamby, 2005). Snyder (2000) analyzed sexual assault crimes reported to law enforcement between 1991 through 1996 and determined that adolescents formed the majority of the victims with high rates of forcible fondling (84%), sexual assault with an object (75%), and forcible sodomy (79%). It has been predicted that female who have been a victim of sexual, physical, and emotional abuse will play a tremendously important role in entering into the residential care facilities (Osofsky, 2001).

Adolescent females in residential care facilities have alarming rates of past sexual abuse (Goodkind, Ng, & Sarri, 2006). This number has increased over the past decade. It has been reported that more than 70 percent of adolescents in the justice, child welfare systems and in shelters report sexual abuse and assault (Lederman & Brown, 2000). Although there have been a decrease in adolescent crimes and arrests, there has been an increase in female adolescents entering the aforementioned systems of care. According to the Federal Bureau of Investigations (2001) the juvenile arrest rate declined by 2.5% while the female arrest rate increased by 18.8%. The majority of female adolescents tend to be arrested and convicted of status crimes. These crimes include truancy, running away from home, and underage drinking. Sickmund (2004) reported that nationally 13% of females in the secure care residential placement in 1999 were for status offenses. Some researchers proposed that the traumatized female participates in these types of offenses to escape the abuse that is occurring at home. These adolescents are often arrested for prostitution because they are forced to sell their bodies to survive on the streets (Goodkind, Ng, & Sarri, 2006).

Training Needs

Childhood Sexual Abuse has such as influential role on the impact of mental health and the residential care facilities it is imperative to consider the training needs of the staff that provide direct care this population. The research has shown a significant relationship between childhood abuse and the development of many mental health problems in adulthood such as, depression, anxiety disorders, post-traumatic stress disorder, eating disorders, dissociative disorders, sexual dysfunction, and substance abuse. Research on the effectiveness of treatment modalities is still developing; counselors should have some awareness of the pervasiveness, dynamics, and approaches used with sexually traumatized adolescents. According to Kitzrow (2002) the complexity of the treatment issues and the ethical considerations of untrained counselors are two major arguments for graduate programs to adequately train counselors to work with victims of sexual abuse. Kitzrow (2002) further explains that without adequate training counselors will not be prepared to understand the family dynamics of sexual abuse and most importantly how to identify victims of childhood sexual abuse. In a study conducted of 64 CACREP accredited and non- accredited graduate counseling programs to determine how many provided courses that specifically addressed child sexual abuse or sexual victimization, only 16

*Table 2. Age * Job Cross tabulation*

			Job				
			Residential Staff	Teacher	Administration	QMHP	Total
age	22-25	Expected Count	3.4	.6	.9	.1	5.0
		% of Total	12.5%	.0%	.0%	.0%	12.5%
	26-30	Expected Count	4.1	.8	1.1	.2	6.0
		% of Total	7.5%	2.5%	2.5%	2.5%	15.0%
	31-35	Expected Count	4.7	.9	1.2	.2	7.0
		% of Total	12.5%	2.5%	2.5%	.0%	17.5%
	36-45	Expected Count	6.1	1.1	1.6	.2	9.0
		% of Total	12.5%	2.5%	7.5%	.0%	22.5%
	46-55	Expected Count	6.8	1.3	1.8	.3	10.0
		% of Total	20.0%	.0%	5.0%	.0%	25.0%
	56-64	Expected Count	2.0	.4	.5	.1	3.0
		% of Total	2.5%	5.0%	.0%	.0%	7.5%
Total		Expected Count	27.0	5.0	7.0	1.0	40.0
		% of Total	67.5%	12.5%	17.5%	2.5%	100.0%

programs offered a specialized course in sexual abuse. There were 27 programs that reported that they offered a course that at least minimally mentioned the topic (Priest & Nishimura, 1995). This is an alarming find based on the prevalence rates of childhood sexual abuse. These findings suggest that there is a strong need for graduate programs to increase the awareness of childhood sexual abuse.

In a research carried out by Goldman & Padayachi (2005), suspicions of child sexual abuse are under-reported by school counselors. There is a tendency of school counselors suspecting abuse, instead of reporting it to the correct authorities. Moreover a good number of counselors in training institutions believe that they have less knowledge in identifying incidences of child sexual abuse; they can't serve as resource persons due to lack of necessary training and knowledge. They also lack skills and procedures to enable them with sexually abused children.

However there is an interest in the counselors to attend in-service education programs that focus on addressing knowledge, prevention, intervention, and treatment of child sexual abuse including other forms of abuse.

Two effective prevention programs in improving children's ability to discriminate between appropriate and inappropriate touching were studied by Blumberg, Shadwick and Forgarty (2004). This study indicated that in a play group, children can be able recognize touch after training than before. Caregivers should understand child sexual abuse and their role in preventing it. The perspective of education at this stage is to explain healthy sexual development. Children sexual abuse is defined; appropriate and inappropriate behaviors outlined; challenging commonly held myths like offenders are strangers hence easily identifiable. Warning signs for sexuality and offending when utilized they, have an impact on a population. Caregivers talk to their children about sexuality and child sexual abuse; the parents are educated as well before any suspicion of sexual abuse has been raised. Awareness is created on where one can seek for help in case of an incidence of child abuse. Policies put in organizations will take care of the people's welfare and educate them on child sexual abuse.

Many factors can help adolescents get protected from getting sexually abused. Counselors should be trained in order to provide sexual abuse education and training for adolescents. Adolescents should be taught on how to interact with one another and to whom they should report in case of sexual abuse. Empowered adolescents can adopt a health strategy to safeguard themselves, for instance, informing the caregiver before proceeding to any place and always walking in the company of friends-not alone and identifying adults who can be trusted. Educated adolescents can be prepared to recognize appropriate behavior and an inappropriate behavior and hopefully this will help prevent or minimize sexual abuse (Blumberg *et al.* 2004).

Table 3. *Age * Years working with females Crosstabulation*

			Years working with adolescent females					
			1-5	5-10	11-15	16-20	25-30	Total
age	22-25	Expected Count	2.8	1.1	.8	.3	.1	5.0
		% of Total	12.5%	.0%	.0%	.0%	.0%	12.5%
	26-30	Expected Count	3.3	1.4	.9	.3	.2	6.0
		% of Total	12.5%	2.5%	.0%	.0%	.0%	15.0%
	31-35	Expected Count	3.9	1.6	1.1	.4	.2	7.0
		% of Total	5.0%	10.0%	2.5%	.0%	.0%	17.5%
	36-45	Expected Count	5.0	2.0	1.4	.5	.2	9.0
		% of Total	12.5%	2.5%	7.5%	.0%	.0%	22.5%
	46-55	Expected Count	5.5	2.3	1.5	.5	.3	10.0
		% of Total	7.5%	7.5%	2.5%	5.0%	2.5%	25.0%
	56-64	Expected Count	1.7	.7	.5	.2	.1	3.0
		% of Total	5.0%	.0%	2.5%	.0%	.0%	7.5%
Total		Expected Count	22.0	9.0	6.0	2.0	1.0	40.0
		% of Total	55.0%	22.5%	15.0%	5.0%	2.5%	100.0%

Table 4. *Age * Education level Cross tabulation*

			Education level				
			High School Diploma/ GED	Associate Degree (2 year program)	Bachelors Degree (4 year program)	Masters Degree (license eligible)	Total
age	22-25	Expected Count	1.5	1.0	1.9	.6	5.0
		% of Total	7.5%	2.5%	2.5%	.0%	12.5%
	26-30	Expected Count	1.8	1.2	2.3	.8	6.0
		% of Total	2.5%	2.5%	7.5%	2.5%	15.0%
	31-35	Expected Count	2.1	1.4	2.6	.9	7.0
		% of Total	7.5%	.0%	10.0%	.0%	17.5%
	36-45	Expected Count	2.7	1.8	3.4	1.1	9.0
		% of Total	7.5%	2.5%	7.5%	5.0%	22.5%
	46-55	Expected Count	3.0	2.0	3.8	1.3	10.0
		% of Total	5.0%	10.0%	10.0%	.0%	25.0%
	56-64	Expected Count	.9	.6	1.1	.4	3.0
		% of Total	.0%	2.5%	.0%	5.0%	7.5%
Total		Expected Count	12.0	8.0	15.0	5.0	40.0
		% of Total	30.0%	20.0%	37.5%	12.5%	100.0%

Methods

This is a time series factorial design. The sample consists of 40 randomly selected staff members. Of the 40 participants, 20 were randomly assigned to the treatment group and 20 were randomly assigned to the control group. The treatment group received the pre and post test Survey of Knowledge and a Survey of Satisfaction. The treatment group was administered the post test Survey of Satisfaction 45 days later. The control group received the pre test Survey of Knowledge at the same time as the treatment group. Additionally, the control group received a post test Survey of Knowledge 45 days after the intervention with the treatment group. The study explored the participant's level of satisfaction with the training curriculum, level of awareness of characteristics of trauma and retention of knowledge. The scores of the pre and post tests Survey of Knowledge were compared to measure knowledge gained and retention. The scores from the Survey of Satisfaction were

Table 5. *Paired Samples Test*

T	df	Sig. (2-tailed)
-.705	19	.489

Table 6. Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pre Know score	6.9500	20	1.93241	.43210
Post Know score	7.2000	20	1.32188	.29558

compared to measure the expected outcomes of the training curriculum.

Research Questions

The current study attempted to validate the effectiveness of training curricula among sexually traumatized females in a residential group home setting.

1. Will participants find the training to be satisfactory in the area of achieving its expected outcomes?" (Satisfaction) (Pre & Post Satisfaction Survey)
2. Will the training curriculum improve awareness of the essential characteristics of trauma?" (Curriculum) (Survey of Knowledge)
3. Will the participants retain the information gained at 45 day follow up?" (Retention) (Survey of Knowledge)

Hypotheses

The hypotheses aim to:

1. Participant knowledge score will be different after the training curricula in the treatment group.
2. Participant pre knowledge score in the control group will remain the same after the treatment group receives their training curricula.
3. Mean post knowledge is different between treatment group and control group.
4. There would be a significant difference of the post Survey of Knowledge scores between the treatment and control group for questions 1,2,6,7, and 9.
5. Participant satisfaction score would be different after the training curricula in the treatment group.
6. The treatment group would retain information after 45 days.

Statistical Analysis

Several statistical analyses were performed using SPSS version sixteen. The derived methodology was borrowed from a wide variety of recommended procedures described by Draper & Smith (1981), Graybill & Iyer (1994), Dunn (1989), Conover (1980) and Agresti (2007). These included: descriptive statistics (median, means, and confidence intervals); hypothesis tests, including the Kolmogorov-Smirnov test for normality, Levene's test for homogeneity of variance, paired-samples t test, independent-samples t test, Wilcoxon signed rank test and Welch's t. The issue in the current analysis was to select appropriate statistical analyses for every data. In this study, before running any statistical test or analysis of the differences the assumptions were checked to provide general guidelines. Several transformations on the variables were conducted and new variables were generated

Table 7. Paired Samples Correlations

	N	Correlation	Sig.
Pre Know score & Post Know score	20	.581	.007

Population and Sampling

Participants consisted of female direct care staff working with adolescent females admitted to a residential group care facility. Participants ranged in age from 22 to 55 with the majority of the sample between the ages of 45-55. The dominant ethnic background of the participants was African American. The participant's experience working with adolescent females will range from one year to five years. The participant's education varied from high school education to college. The research sample was selected from 40 randomly assigned direct care staff members from a residential care facility. Recruitment was accomplished through contacting the facility's Clinical Director. Participants were randomly assigned to the study by selecting their names from a bowl. An independent contracted consultant conducted the on-site training at the residential facility. A demographic survey, created by the researcher, was administered to participants. The demographic information assisted in determining participant age, ethnicity, years of experience working with adolescent females, level of education and job classification. For a summary of the demographic data, please see Tables 1-4).

Training Overview

The purpose of the training was to provide an overview of sexual trauma within the context of cultural competent care. Key treatment interventions and strategies for effectively engaging youth including substance abuse, depression, PTSD, and personality disorders and other related issues will be examined through didactic and experiential learning. The learning objectives were to: increase awareness of best practice interventions; improve understanding of components of trauma-informed care; improve engagement skills with youth; improve emotional and physical boundaries with youth; improve understanding of cycle of sexual retraumatization.

The training consisted of eight modules. Module one provided an in-depth look into what is trauma. Module two examined the risk and protective factors of working with traumatized adolescents. Module three provided a review of trauma informed interventions. Module four provided an overview of trauma reactions. Module five identified signs and symptoms of trauma. Module six provided teaching tools for engaging and helping traumatized youth. Module seven provided an understanding of how empowerment is instrumental in healing. Last, module eight provided tips for creating therapeutic milieus.

Table 8. Paired Samples Correlations

	N	Correlation	Sig.
Pre Know score & Post Know score	20	-.212	.369

Measures

Demographic Survey provided information on participant's age, ethnicity, years of experience working with adolescent female's level of education and job classification. This survey was administered at the beginning of the training. This survey was created by the researcher.

Survey of Knowledge is a 10-item multiple choice survey of knowledge will survey participant knowledge germane to the basic literacy skills necessary when working with sexually traumatized girls involved in the residential care facilities. The survey was developed by Panzino (2002) and has been used by several public and privately funded residential treatment programs throughout the country. The survey has no known reliability and validity.

Satisfaction Survey is a 10-item satisfaction survey will survey participant satisfaction with the training curriculum. The survey, utilizing a six-point Likert scale, will be administered immediately following the posttest and at the 45 follow up. The survey was developed by Vivian (2003) and adapted by this researcher with permission. The survey has no known validity or reliability.

Procedures

The Gender Specific and Trauma Informed training curriculum was presented to participants in a four hour training format. During the training activity, the core tenets of the curriculum were explained. As each training module is presented, knowledge germane to that area was taught. Applications and outcomes were presented in the context of actual case studies involving female communication strategies, motivational and engagement strategies. Participants had the opportunity to practice their newly gained skills in the course of group discussion.

A 10-item satisfaction survey was used to query participant satisfaction with the training curriculum. The survey, utilized a six-point Likert scale, was administered immediately following the posttest. A demographic survey was administered to participants. The demographic information assisted in determining participant age, ethnicity,

Table 9. Paired Samples Test

T	df	Sig. (2-tailed)
1.468	19	.159

Table 10. Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pre Know score	7.90	20	1.33377	.29824
Post Know score	7.25	20	1.20852	.27023

Table 11. Group Statistics

	groups	N	Mean	Std. Deviation	Std. Error Mean
Post knowledge score	Treatment Group	20	7.20	1.32188	.29558
	Control Group	20	7.25	1.20852	.27023

Table 12. Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means		
Post knowledge score	F	Sig.	t	df	Sig. (2-tailed)
Equal variances assumed	.031	.860	-.125	38	.901
Equal variances not assumed			-.125	37.699	.901

years of experience working with adolescents, level of education and job classification. This survey was administered at the beginning of the training. Measures of the dependent variables were taken from the surveys.

Results

Hypothesis 1

H1 The research hypothesis was that participant knowledge scores will be different after the training curricula in the treatment group.

The hypothesis was not supported by the t-test in Table 5 at the 0.05 level showing that the mean score of post knowledge score (m=7.2, Sd=1.32 in Table 6 was not significantly larger than the mean score of pre knowledge score (m=6.9, Sd=1.9). The correlation results in Table 7 showed clearly that there was a strong positive relationship between pre knowledge score and post knowledge one (r=0.58). This correlation is significant at the required level of 0.01.

Hypothesis 2

H2 It was hypothesized that the participant pre-knowledge scores in the control group will remain the same after the treatment group received their training curricula.

The hypothesis was supported. The correlation in Table 8 between both variables was too weak and not significant in Table 9 at the 0.05 level. The mean post knowledge score (m=7.25, Sd=1.20; Table 10 was not significantly different from the mean pre knowledge score (m=7.9, Sd=1.33; Table 10), t(19)=1.46, p=0.15.

Hypothesis 3

H3 It was hypothesized that the mean post knowledge is different between treatment group and control group

The test was not significant, t (38), p=0.90. The mean post knowledge score in the treatment group (m=7.20, Sd=1.32 in Table 11 was not significantly different from the mean post knowledge score in the control group (m=7.25, Sd=1.20). The Levene's test for homogeneity of variance in Table 12 was not significant indicating that equal variances can be assumed. The independent samples t test in Table 12was conducted to evaluate the hypothesis that the mean post knowledge is different between treatment group and control group.

In the output shown in Table 13, based on Levene's results the p value is 0.19 indicating that the variances are not significantly different, so we may use the independent t test results from the row labeled "equal variances assumed". It is found that the observed t, with 38 df, is -1.8, and the p value is 0.07. since p is larger than 0.05, this test is statistically non significant indicating that there is no significant difference between the mean pre knowledge score for treatment group and the mean pre knowledge score for control group. So, the results of Table 14are statistically non significant.

Table 13. Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means		
Pre knowledge score	F	Sig.	t	df	Sig. (2-tailed)
Equal variances assumed	1.781	.190	-1.809	38	.078
Equal variances not assumed			-1.809	33.754	.079

Table 14. Group Statistics

	groups	N	Mean	Std. Deviation	Std. Error Mean
Pre knowledge score	Treatment Group	20	6.95	1.93241	.43210
	Control Group	20	7.90	1.33377	.29824

Table 15. Test Statistics

	Post know Score for Q1,2,6,7,9 Vs Pre know Score Q1,2,6,7,9
Z	-.572(a)
Asymp. Sig. (2-tailed)	.567

a Based on negative ranks.
b Wilcoxon Signed Ranks Test

Hypothesis 4

H4 It was hypothesized that there would be a significant difference of the post knowledge scores between the treatment and control group for questions 1,2, 6,7,9.

The results (Table 15) indicated a non significant difference, z=-0.57, p=0.56. A Wilcoxon test was conducted to evaluate whether the new mean post knowledge score is different from the new mean pre knowledge score. It cannot be assumed that the mean of the ranks in favor of post knowledge score is statistically different than the mean of the ranks in favor of pre knowledge score (Table 16).

Hypothesis 5

H5 It was hypothesized that a participant satisfaction scores will be different after the training curricula in the treatment group.

The correlation results in Table 17 showed a positive relationship between pre satisfaction score and post satisfaction one (r=0.35). This correlation is not significant at the required level of 0.05. The hypothesis was supported by the t-test in Table 18 at the 0.01 level showing that the mean score of pre satisfaction score (m=38.57, Sd=2.18 in Table 19) was significantly larger than the mean score of post satisfaction score (m=6.78, Sd=7.30). It may be surprising to find that the satisfaction score decreased substantially after the training curricula whereas it is expected to find the inverse.

Hypothesis 6

H6 It was hypothesized that the treatment group would retain the information after 45 days.

The results of Table 20 suggested that the Wilcoxon test was conducted to evaluate whether the mean post knowledge score is different from the mean retention score. The results 16 indicated a non significant difference, z=-0.25, p=0.79. It cannot be assumed that the mean of the ranks in favor of post knowledge score is statistically different than the mean of the ranks in favor of retention score. The retention scores of the participants remained significantly the same after 45 days from the post knowledge survey and the training curricula.

Table 16. Ranks

		N	Mean Rank	Sum of Ranks
Post know Score for Q1,2,6,7,9 Vs Pre know Score Q1,2,6,7,9	Negative Ranks	4(a)	5.50	22.00
	Positive Ranks	6(b)	5.50	33.00
	Ties	10(c)		
	Total	20		

a Post know Score for Q1,2,6,7,9< Pre know Score Q1,2,6,7,9
b Post know Score for Q1,2,6,7,9 > Pre know Score Q1,2,6,7,9
c Post know Score for Q1,2,6,7,9 = Pre know Score Q1,2,6,7,9

Summary

The study addressed the following hypotheses: There would be a significant difference between the scores of the pre and post knowledge scores for the treatment group; There would not be a significant difference between the pre and post knowledge scores for the control group; There would be a significant difference of the post knowledge scores between the treatment and control group; There would be a significant difference between the pre and post knowledge scores using questions 1, 2, 6, 7, and 9 in the treatment group; There would be a significant difference between the pre and post satisfaction scores 1, 4, 8, 9, and 10; The treatment group will retain the information learned after forty-five days.

Major Findings

Hypothesis one stated that would be a significant difference between the scores of the pre and post knowledge scores for the treatment group. This hypothesis was not supported. The mean score of the pretest score was not significantly larger than the mean score of the post test. Although there was no significance, there was a slight change between the pre and post mean scores. The participant scores showed some improvement prior to the training curriculum. Hypothesis two stated that would not be a significant difference between the pre and post knowledge scores for the control group. This hypothesis was supported. There was no significant change between the control group pre and post scores. Hypothesis three stated there would be a significant difference between the pre and post knowledge scores using questions 1, 2, 6, 7, and 9 in the treatment group. This hypothesis was not supported. There was no significant difference between the scores of the control and treatment group. Hypothesis four stated that there would be a significant difference of the post knowledge scores between the treatment and control group for questions 1,2, 6,7,9. This hypothesis was not supported. There was a non-significant difference between the group scores. Hypothesis five stated that a participant satisfaction score will be different after the training curricula in the treatment group. This hypothesis was supported. There was a decrease in the satisfaction scores. There are several explanations for the decrease in post-satisfaction scores. First, after the training the direct care staff verbalized that there were several reassignment of staff. This involved working with a different clinical population and direct care staff. This may account for the lack of opportunity to provide r utilize skills used because there was a lack of rapport with the clinical sample and with staff. Second, forty-five days may not have been an ample amount of time for the direct care staff to notice a difference with the adolescents and their peers. The pre- satisfaction survey showed that the overall participants found the training curriculum to be useful and met the expected outcomes. Hypothesis six stated that the treatment group would retain the information after 45 days. The retention scores of the individual remained significantly the same after 45 days from the post knowledge survey and the training curricula.

Table 17. Paired Samples Correlations

	N	Correlation	Sig.
Pre Satisfaction score for Q1,4,8,9,10 & Post Satisfaction score for Q1,4,8,9,10	20	.353	.127

Limitations of Study

Although there have been significant results presented, it is important to address the limitations of the study prior to making conclusions about the significance of the findings. The first limitation of the study is that the sample consisted of a homogeneous group making it difficult to generalize to a heterogeneous group. The sample was approximately 98 percent female all similar in ages. The majority of the sample was also African American. The sample was taken from one residential facility in a rural town. Additionally, the sample size was small. These limitations reduced the generalizability to larger populations. The second limitation is that the residential population was also homogenous. The clinical population of the residential treatment facility shared similar clinical characteristics whose profile is based on histories of physical and sexual trauma, runaway and substance abuse issues. Diagnostically, most of the adolescent females were diagnosed with DSM-IV-TR PTSD, ADHD, Conduct disorder and mood disorders. These girls had histories of parental neglect and abandonment along with significant legal problems. Many had been involved in multiple out of home placements. This also reduced the generalizability of the study findings. The third limitation is that there was no integration and participation from the adolescents themselves. Participation from the residents would have been helpful to relate their concerns with the residential staff.

The fourth limitation is the brief follow up period. This was a time series design. The follow up study was done only forty-five days after the initial participation in the training. This may have not been enough time for the residential staff to practice skills learn and observe the results. Furthermore, the duration of the study may not have provided enough time for any significant changes to occur in the staff, milieu of the cottage, residents and peers. The fifth limitation is the reliability and the validity of the instruments. Although the instruments had been used by researchers, the instruments lacked psychometric research regarding reliability and validity. Reliability is important in order to receive consistency of the scores if this study was repeated. Validity is important because it determines whether the instrument accurately reflects or assesses the specific concept that is being measured. The sixth limitation is the condition in which the training was administered. Several of the comments given on the post satisfaction surveys were made about the space not being conducive for learning. Similarly, the comprehension level of the staff needed to be considered to ensure the material was appropriately normed for the population.

Recommendations for Future Research

The following recommendations for future research are based on the findings of this study. The first recommendation is for the study to be conducted with a larger and diverse sample. The sample should include direct care staff of a variety of ages, race, job classification, and years of experience. It is recommended to also include in the data the administrative and management staff because they often have direct contact with the care of the adolescents. Future studies should include men who work with this population. Perhaps, an experimental pre test post test design using several different residential group

Table 18. Paired Samples Test

	Paired Differences				
	Mean	Std. Deviation	T	df	Sig. (2-tailed)
Pre Satisfaction score for Q1,4,8,9,10 & Post Satisfaction score for Q1,4,8,9,10	11.78947	6.85128	7.696	19	.000

Table 19. Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pre Satisfaction score for Q1,4,8,9,10	38.5789	20	2.18405	.48837
Post Satisfaction score for Q1,4,8,9,10	26.7895	20	7.30954	1.63446

home programs could be conducted. An experimental design would allow for more generalizability.

Second, closely related to the first recommendations, a comparison of the results of male and female adolescent treatment facilities would be helpful. Whether these facilities are co-ed or single gender is less important; however, comparing the differences might shed additional light on the staff's perception of the training curriculum. Furthermore, a staff ratio including both genders could reveal differences in the gender specific training needs.

Third, further reliability and validity studies on the curriculum are recommended.

Future studies should address the following questions: 1) which elements of the training curriculum are most likely to produce lasting positive outcomes? 2) Are there certain classifications of staff members most consistent with the goals and objectives of the curriculum and 3) What personality factors of direct care staff members have positive effects on retention of critical knowledge obtained from the training? Future longitudinal studies should be examined to determine if the aforementioned personality characteristics of staff would improve the ability of researchers and clinicians to determine the most appropriate types of staff to work with girls who have been traumatized. For example, a staff with an inflexible personality exhibiting insensitive behavior with residents might be better equipped to work with residents in a more restrictive environment such as a detention or secure correctional facility. Additional research could help in assisting the comprehension level of the training material.

Fourth, in responding to the needs of the residents, a more diverse clinical sample is recommended. The clinical population of the residential treatment facility shared similar clinical profiles. The majority of the clinical sample had a diagnosis of Conduct Disorder, Post-traumatic Stress Disorder, and Borderline Personality Disorders. For example, the clinical sample could include adolescents with a higher rate of suicide attempts or self injurious behaviors, and mood disorders. A clinical population with a variety of needs would allow for a more representative sample of residents.

Fifth, this was a time series design. It is recommended that the duration of the study be extended. For example, complete a follow up at forty-five days and then at ninety days to measure the retention over a longer period of time. This would provide more information on whether the training curriculum had an impact on retention of critical information as well as learning occurred. Lastly, more time after the training would allow the participants ample opportunity to practice necessary skills learned from the training curriculum.

Sixth, additional research on the instruments could provide valuable information on the relationship between satisfaction, and retention of knowledge. Perhaps a reliability study utilizing inter-rater reliability techniques would be helpful. Additionally, the instruments along with the training curriculum could be reviewed by a panel of experts to determine the relationship between them.

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Table 20. Test Statistics

	Post knowledge score vs. retention score
Z	-.259(a)
Asymp. Sig. (2-tailed)	.796

a Based on positive ranks.
b Wilcoxon Signed Ranks Test

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