




# An Exploration of Adverse Childhood Experiences, Treatment Types, and Strengths in Adolescent Therapeutic Residential Care

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## Abstract

Extensive research has documented associations between childhood abuse and neglect and adolescent mental health. This exploratory study adds the examination of differences in types of adverse childhood experiences (ACEs), including abuse, neglect, and household dysfunction, with a little studied population, those in therapeutic residential care. Also documented were the differences between types of treatment categories per the *Youth Comprehensive Risk Assessment (YCRA)* and adverse experiences, as well as the adolescent strengths of empowerment and social competence related to adverse childhood experiences in therapeutic residential care.

Data was generated from 139 youth in two adolescent therapeutic residential care centers. The most commonly reported adverse experiences were emotional abuse (79.9%) and physical neglect (76.3%). Those with lower empowerment and social competence had significantly higher ACEs in the areas of abuse, neglect, and total ACEs. Youth categorized as high risk to others but not to self, had significantly fewer adverse childhood experiences than others. Study findings support broadening the current discourse on types of adverse events and challenges when considering pathways toward strength building and treatment type, especially related to social competence.

**Keywords** Child abuse · Youth · Adolescents

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## Introduction

Recent empirical research has focused on adverse childhood experiences (called ACEs) in juvenile justice settings and their association to consequences such as suicidal ideation and delinquent behavior (Baglivio, et al., 2014; Duke, et al., 2010; Quisenberry & Foltz, 2013). However, ACEs for adolescents in therapeutic residential care (TRC) have not typically been studied, nor have the differences between types of adverse childhood experiences and perceived strengths been widely analyzed. This is an important exploration as there are a dearth of studies that explore factors that can potentially offset ACEs. In addition, we explored TRC youth according to variable treatment needs (e.g., those initially resistant to mental health treatment, and those not) (Briggs, Greeson, Layne, Fairbank, Knoverek & Pynoos, 2012; Coll, 2017; Kazdin, 1993).

In this study, youth were grouped according to ACE results, treatment type, and strengths, then differences were explored via t-tests and analysis of variance. We hypothesized that significant differences would exist between type of adverse childhood experience and youth presenting various treatment types and perceived strengths. We examined three categories of adverse childhood experiences (abuse, neglect, home environment) per assessment of ACEs. We then explored the differences between ACE categories and the perceived strengths of empowerment and social competence. Finally, we explored differences in ACE categories by four described treatment types.

Adverse childhood experiences (ACEs) refer to the following 10 childhood experience researchers have identified as risk factors for chronic disease in adulthood: emotional abuse, physical abuse, sexual abuse, emotional neglect, physical neglect, violent treatment toward mother, household substance abuse, household mental illness, parental separation or divorce, and having an incarcerated household member (Baglivio, et al., 2014). ACEs were first described in 1998 by Felitti, Anda, and colleagues with the publication of the seminal study, “Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) Study” (Felitti et al., 1998).

The implications of high ACE scores are now well documented in the medical literature. Higher cumulative ACE scores have been shown to increase the odds of smoking, heavy drinking, incarceration, and morbid obesity, along with increased risk for poor educational and employment outcomes and recent involvement in violence (Balistreri & Alvira-Hammond 2016; Bellis et al., 2014). Prior studies have shown that for children who have experienced four or more ACEs, the odds of having one of the abovementioned negative health outcomes in adulthood are up to 12 times greater than those of children who have not had such exposure (Felitti et al., 1998). Youth development within stable, nurturing contexts that facilitate achievement of strengths such as empowerment and social competence are critical for setting the stage for healthy self-awareness and self-care, future orientation and goal achievement, and successful transition into young adulthood. Threats to this process through child maltreatment occur far too often in the United States. In a recent national study, at least one in seven youth by 17 years of age has experienced adverse conditions including physical, sexual, and emotional abuse and neglect (Baglivio, et al., 2014; Duke, et al., 2010; Quisenberry & Foltz 2013).

Studies in the last decade have begun to illuminate the effects of such adverse childhood experiences on dysfunctional developmental trajectories (Duke, et al., 2010;

Quisenberry & Foltz 2013; Baglivio, et al., 2014). There is a growing body of evidence that supports the association of youth experiences of abuse with increasing risk for mental and physical health problems and reduction of resiliency (Baglivio, et al., 2014; Duke, et al., 2010; Quisenberry & Foltz 2013). Thus, the importance of the study reported herein is that it explores strength-based factors that may ameliorate ACEs. Such studies are generally scarce, and even more so with TRC populations.

Often vulnerable adolescents in TRC feel powerless to overcome their issues (Coll, 2017). Growing and supporting individual strengths and assets is often key in helping youth ameliorate adverse childhood experiences, gain self-efficacy, build resiliency, and work toward their full potential (Sesma Jr et al. 2013). Understanding a youth's strengths is considered a key ingredient to better mental health and trauma recovery (Search Institute, 2019).

Research indicates that youth can and do develop personal strengths despite extremely debilitating environmental, family, and personal experiences (Williams, Lindsey, Kurtz, & Jarvis, 2001). Williams et al. (2001) found that with structure, consistency, and support, vulnerable at-risk-youth were able to successfully progress with school, family, and work. Additionally, Quisenberry and Foltz (2013) discovered that higher levels of resiliency indicated higher levels of positive youth development. Likewise, fostering strong, responsive relationships between children builds core life skills that can help to buffer the effects of toxic stress (Centers for Disease Control and Prevention, <https://developingchild.harvard.edu/ACEs>, 2020).

Youth in therapeutic residential care often represent a different kind of vulnerable adolescent than those in home environments (Association of Children's Residential Centers 2014). While there is some overlap, these youth usually have considerably more mental health challenges (Affronti, & Levison-Johnson, 2009; Brown, Barrett, Ireys, Allen, Pires, & Blau, 2010; Walter and Petr 2008). In fact, it is estimated that 33% of adolescents in TRC have an emotional disturbance, a developmental delay, and/or other serious mental health issues (Quinn, Rutherford, Leone, Osher, & Poirier, 2005). Quisenberry and Foltz (2013) asserted that "youth in residential care are considered to be some of the most behaviorally and emotionally disturbed children receiving mental health services" (p. 280). Yet, they often respond well to strength building (Quisenberry & Foltz, 2013). However, there still exists little empirical information about the specific associations between multiple adverse childhood experiences and youth's perceived strengths.

Two important strength categories that consistently appear in the professional literature are empowerment and social competence. Huang, Duffee, Steinke, and Larkin (2011) indicate that empowerment via trust building and social skill development improve mental health outcomes in adolescent TRC settings. A sense of self-efficacy (empowerment) and positive relationships carried by effective social skills are consistently identified as vitally important to overall mental health treatment outcomes. An understanding of the associations between multiple types of adverse events and perceived strengths can better inform prevention, screening, and intervention efforts with the TRC population (Quisenberry & Foltz, 2013). However, little is known about this association.

Recent research has also found that TRC youth have variable treatment needs. For example, those considered higher risk to others (e.g., assault, sexual aggression, destruction of property) are often initially resistant to mental health treatment, as they are not

typically internally distressed and have developed coping strategies that are somewhat functional in their environments (Briggs, Greeson, Layne, Fairbank, Knoverek & Pynoos, 2012; Coll, 2017; Kazdin, 1993). Similarly, those youth with higher risk to self may be so distressed that they are also initially resistant to mental health treatment (Briggs, et al., 2012; Coll, 2004). It is important to take into consideration in this particular context, however, that research has shown that motivation or resistance to treatment has an important contextual source (e.g., residential climate) (Tamman et al., 2020). Therefore, it is important to note that resistance to treatment does not solely lie with youth characteristics, nor with youth strengths. With this limitation in mind, those high in risk to self and others can be most resistant to mental health treatment initially (Coll, 2017).

Applying Prochaska et al. (1994) Stages of Change Model language, those with high risk to others may initially be in the precontemplation/contemplation stages [defined as not considering or just beginning to consider change in problem behaviors and lacking significant awareness related to these behaviors, even though such behaviors have brought a great deal of trouble]; whereas those with less risk to self and/or others seem more ready for the preparation to change and taking action stages (Miller & Rollnick, 2012). What is not known at this time is how risk to self and/or others relate to ACEs in TRC. This is an important exploration because ACEs and various youth treatment risks can provide valuable clinical insights in assisting traumatized youth.

## Purpose of the Study

The purpose of this study, therefore, was to examine differences in two therapeutic residential care populations between multiple types of adverse childhood experiences (ACEs) and perceived strengths of empowerment and social competence and treatment categories. Four specific treatment categories were employed from the *Youth Comprehensive Risk Assessment (YCRA)*. This study and its results are not prescriptive per se, rather the study and results provide insights into what can be learned to inform practice.

Based on prior research (Quinn, Rutherford, Leone, Osher, & Poirier, 2005; Quisenberry & Foltz, 2013), we hypothesized that significant differences would exist between type of adverse childhood experience and youth presenting various treatment types and perceived strengths. In addition to reporting demographic information, the following three research questions were addressed:

Research Q1: What are the ACEs reported as compared to a national sample?

Research Q2: What differences exist between the strengths of empowerment and social competence and ACE categories?

Research Q3: What differences exist between four treatment types and ACE categories?

## Method

### Participants and Settings

The 139 youth in this study ranged in age from 12 to 17 (average age 14.5; SD 1.9) with 78% identifying as male and 22% identifying as female. Participants indicated

their ethnicity as European American (69%), Hispanic (19%), American Indian/Alaska Native (6%), African American (4%), and Asian American (2%). Fifty percent of the youth came from families below the poverty line. Average length of stay at the two facilities was 6.1 months.

The settings for this Institutional Review Board (IRB) approved study were two comparable rural therapeutic residential care centers in the Rocky Mountain Region of the United States. Both agencies are located in small towns (population under 30,000) and offer specialized educational, psychological, and therapeutic services for adolescents. Youth at both facilities live in cottages or “pods” and have 24-h supervision from staff. Youth are referred to these facilities for one or more of the following reasons: (a) non-compliance in school, (b) history of criminal activity, and/or (c) having been referred by Child Protective Services. The two participant agencies both embrace a strength-based relational mission. Their operating philosophy is to “know deficits but intervene relationally with strengths”.

## Instruments

Three instruments were utilized in this study. Each is discussed below.

### Adverse Childhood Experiences

An individual’s ACE score is expressed as the total number of reported ACEs measured in a binary, yes/no fashion. For example, a positive response to a question on sexual abuse would score one point, whether there were one or 100 incidents. Empirical evaluations have shown that ACEs are common, highly interrelated, and exert a powerful cumulative effect on human development (Anda, Butchart, Felitti, & Brown, 2010). The use of the ACE score as a measure of the cumulative effect of traumatic stress exposure during childhood is consistent with the latest understanding of the effects of traumatic stress on neurodevelopment (Anda et al., 2010; Baglivio, et al., 2014). Sample questions include; Abuse—Did a parent or other adult in the household often or very often... Push, grab, slap, or throw something at you? or Ever hit you so hard that you had marks or were injured? Neglect—Did you often or very often feel that... You did not have enough to eat, had to wear dirty clothes, and had no one to protect you? or Your parents were too drunk or high to take care of you or take you to the doctor if you needed it? Home environment—Did you live with anyone who was a problem drinker or alcoholic, or who used street drugs?

### Asset Checklist

The Search Institute’s 40 Asset Checklist is an assessment tool that provides evidence that the more assets one has, the more functional and successful one typically is. The Search Institute (2019) specifies that the 40 developmental assets represent accepted thinking about the kinds of positive experiences that young people need to thrive. Surveys of almost 150,000 students in grades 6–12 reveal that assets are powerful influences on adolescent behavior. The Search Institute (2019) found that regardless of gender, ethnic heritage, economic situation, or geographic location, assets are correlated with positive behaviors and attitudes and help protect young people from many

different problem behaviors. For this study, two asset categories from the checklist were employed: empowerment and social competence. The specific questions (answered Yes or No) follow:

#### Empowerment

1. I believe that adults in my community value youth.
2. I believe that young people are given useful roles in my community.
3. I serve in my community for 1 h or more per week.
4. I feel safe at home, at school, and in the neighborhood.

#### Social Competencies

1. I know how to plan ahead and make choices.
2. I have empathy, sensitivity, and friendship skills.
3. I have knowledge of and comfort with people of different cultural/racial/ethnic backgrounds.
4. I can resist negative peer pressure and dangerous situations.
5. I seek to resolve conflict nonviolently.

In terms of reliability, prior research has shown relatively high internal consistencies that averaged .97 for Total Assets. Results did not vary significantly between groups (e.g., males, females, age groups, ethnically diverse groups). Test–retest reliability for the 6th through 12th graders ( $n = 225$ ) were moderately high and averaged  $r = .79$  for the eight asset categories (including empowerment and social competence scales) and  $r = .87$  for the Total Asset score. For concurrent validity, a test of 1300 youth yielded a .82 correlation between the Total Asset score and the total number of assets derived from the Search Institute’s longer survey, *Profiles of Student Life: Attitudes and Behaviors* (A&B survey), indicating a very strong linear relationship.

#### Treatment Types

The YCRA was approved as a performance measurement system with The Joint Commission (TJC) for the Accreditation of Health Organizations (formerly the Joint Commission for the Accreditation of Health Organizations JCAHO) in 1998. Per TJC approved definition, the YCRA is specifically defined as a clinical assessment process utilized by trained mental health professionals to systematically gather information and make clinical judgments related to four treatment types and initial treatment engagement (Coll, 2017), which are:

1. Thriver: Per the YCRA, a score below 12 on risk to self and below 12 on risk to others, indicating less risk to self and others and less predicted time in residential care.
2. Highly Distressed: Per the YCRA, a score above 12 on risk to self and a score below 12 on risk to others, indicating higher risk to self but not others, and more predicted time in residential care.

3. Resister: Per the YCRA, a score below 12 on risk to self and above 12 risk to others, indicating higher risk to others but not self, and more predicted time in residential care.
4. Highly Distressed Resister: Per the YCRA, a score above 12 on risk to self and above 12 on risk to others, indicating both high risk to self and others and the most predicted time in residential care.

The YCRA has been used at both participant sites as a practice model for treatment.

The YCRA has high utility in distinguishing important treatment type patterns. In a recent study, youth who were highly distressed resisters [significantly higher risk to self and to others] were reported to have more problems with social functioning and substance abuse, and when initially in TRC needed a considerably higher degree of structure in treatment to be successful (Coll, 2017). The YCRA has been utilized at both participant sites to orient clinicians to effective treatment. These treatment types have been associated with treatment outcomes (Coll, Stewart, Juhnke, Thobro, & Haas, 2009).

## Procedures

### Client Record Data

Archival data was analyzed consisting of a review of youths' records from each TRC. Included in the records were demographic data, youth ACE data, YCRA treatment categories, and measures of the perceived strengths of empowerment and social competence. This initial assessment information was gathered from youth within 3 weeks of entry into TRC by masters and doctoral level clinicians.

### Data Coding/Loading

All study data were abstracted from existing clinical records collected for the secondary purpose of conducting the research. All measures were collected in the course of providing standard of care clinical services at the TRCs. Data from the youth's records were coded into experienced ACEs, YCRA treatment category, and assets. Each youth was assigned to one of the four treatment types by the clinical director at the site, and this assessment was then verified by a consultant versed in the YCRA. Youth ACEs were assigned to the established categories, grouped into abuse, neglect, household environment, and total ACEs (Felitti et al., 1998). Each of the 10 ACEs was also tracked individually except "was a household member depressed or mentally ill" as answers to that question were inadvertently not gathered. Data from the youth's records were coded into experienced ACEs in that the ACE questionnaire was not directly used. Records were abstracted by staff from clear indication in the client records of ACEs (e.g., previous physical, sexual abuse) who made determinations about the experience of ACEs. This data abstraction was piloted and all records were checked at least two times for accuracy among a team of two researchers and the clinical director from each agency.

*Asset Checklist* variables were created for analyzing empowerment (if 3 to 4 of the 4 items were endorsed yes- this was considered a perceived strength and coded as a "2"; if only 0 to 2 of the 4 items were endorsed yes- this was not considered a perceived

strength and given a “1”) and social competence (if 3 to 5 of the 5 items were endorsed yes- this was considered a perceived strength and coded as a “2”; if only 0 to 2 of the 5 items were endorsed yes- this was not considered a perceived strength and given a “1”). These cut points per the asset checklist were determined at both participant sites based on professional clinical judgment from historical comparisons. It is important to note that youths’ ACE scores did not figure into the determination of YCRA treatment types. All data was entered into SPSS for analysis.

## Data Analyses

Independent samples t-tests (two-tailed) and one-way analysis of variance (ANOVA) were utilized to evaluate the associations of types of adverse childhood experiences with YCRA treatment types and perceived strengths.

## Results

### Research Question 1: What Are the Rates of ACEs as Compared to a National Sample?

Results indicated that the youth ( $n = 139$ ) experienced higher rates of abuse, neglect, home environment disruption, and overall number of ACEs than the national average. Half of the sample (50.4%) experienced physical abuse growing up compared to the national average of 28.3%. More than one-third (35.3%) of the sample experienced sexual abuse compared to the national average of 20.7%. The mean total number of types of abuse experienced was 1.20,  $SD = 0.92$ , range: 0–3.

The largest differences between this sample of youth and the national norm group were found when comparing rates of emotional and physical neglect. Emotional neglect was experienced by 79.9% of the youth as compared to the national average of 14.8%. Over three-quarters (76.3%) of this sample experienced physical neglect as a child, compared to 9.9% of youth in the national norm. The mean types of neglect experienced by youth in this sample were 1.57,  $SD = 0.80$ , range: 0–2.

Large differences were also found in all measures of ACEs related to the household environment. Household substance abuse was roughly 40% greater in the homes of youth in this sample compared to the national average, and divorce was 36.4% more common.

The total number of ACEs across categories experienced by the youth in this sample was notably different than the national norm group as well. While 2.2% of the current sample did not experience any ACEs, compared to 36.1% nationally, almost half (47.8%) of the sample experienced four or more ACEs, compared to 12.5% nationally. See Table 1.

### Research Question 2. What Differences Exist Between the Strengths of Empowerment and Social Competence and ACE Categories?

Results revealed that ACEs were significantly different per social competence strengths. Independent sample t-tests indicated that significantly less social competence



**Table 1** ACEs: sample descriptive statistics and comparisons to national norms

Scale	Sample mean	Sample SD	Sample %	National norm %
Abuse total (3 items- yes or no for each item)	1.2	.92		
Emotional abuse			26.6	10.6
Physical abuse			50.4	28.3
Sexual abuse			35.3	20.7
Neglect total (2 items- yes or no for each item)	1.6	.80		
Emotional neglect			79.9	14.8
Physical neglect			76.3	9.9
Household environment total (5 items- yes or no for each item)	1.8	1.0		
Mother treat violently			29.5	12.7
Substance abuse in household			66.2	26.9
Mental illness in household			Not Collected	
Divorce			59.7	23.3
Family member in prison			22.3	4.7
Number of ACEs total	4.5	1.9		
0			2.2	36.1
1			5.8	26.0
2			5.8	15.9
3			17.4	9.5
4 or more			47.8	12.5

Note: National Norm group from Dube, Anda, Felitti, Chapman, Williamson, and Giles (2001)

was associated with more abuse, neglect, and with total number of ACEs. See Table 2. Cohen (1988) suggested that effect sizes (ES) of .20, .50, and .80 should be considered small, medium, and large, respectively. The statistically significant differences as specified by Cohen fell into small, medium, and large ranges. The conclusion can thus be made that results have not only statistical significance but also practical significance (Cohen, 1988).

Results further revealed that ACEs were different per empowerment strengths, although only significant on the exploratory level ( $p < .10$ ). Independent samples *t*-tests indicated that less empowerment was associated with more abuse ( $p = .06$ ;  $ES = .40$ ) and total number of ACEs ( $p = .07$ ;  $ES = .22$ ). See Table 3.

Differences as specified by Cohen fell into the small to medium range, indicating some practical significance (Cohen, 1988).

### Research Q3: What Differences Exist Between Four Treatment Types and ACE Categories?

Per the various types of youth treatment according to the YCRA, 33% of youth fell into the high-risk-to-self category, termed highly distressed (HD). More than one quarter (26.1%) fell into the high risk to self and others category, termed highly distressed

**Table 2** Social competence: group statistics and independent sample t-tests

Scale	Asset/strength 3–5 (Yes) 0–2 (No)	<i>n</i>	ACE category Mean	SD	<i>t</i>	df	<i>p</i>
Total abuse	Yes	80	.99	.92	−2.07	136	.04*
	No	58	1.3	.88			
Total Neglect	Yes	80	1.4	.90	−3.95	130.34	<.001**
	No	58	1.8	.52			
Total home environment	Yes	80	1.8	1.0	−.76	136	.45
	No	58	1.9	1.0			
Total ACEs	Yes	80	4.1	2.0	−3.02	135.43	.003***
	No	58	5.1	1.6			

\* Effect size = .34; \*\* Effect size = .77; \*\*\* Effect size = .63

resister (HDR), and another 25% indicated low risk to self and others, termed thriver (T). The resister (R) type (high risk to others only) was the lowest percentage (15.2%).

Per one-way analysis of variance, there were significant differences among treatment type for total neglect,  $F(3, 134) = 6.02$ ,  $p = .001$ ,  $ES = .75$ ; total home environment,  $F(3, 134) = 2.95$ ,  $p = .035$ ,  $ES = .63$ ; and total ACEs,  $F(3, 134)$ ,  $p = .002$ ,  $ES = .95$ . Post hoc analysis (Tukey) indicated that resisters (high risk to others only) had significantly less neglect, home environment, and total number of ACEs. Those Highly Distressed (high risk to self only) and Highly Distressed Resisters (high risk to self and others) had significantly more home environment ACEs than Resisters (high risk to others) and Thrivers (lower risk to self and others). Resisters also had significantly fewer total ACEs than the other three types, and were most different from those Highly Distressed (high risk to self only). See Table 4.

Statistically significant differences as specified by Cohen fell into the medium to large range, indicating strong practical significance (Cohen, 1988).

**Table 3** Empowerment: group statistics and independent sample t-tests

Scale	Asset/strength 3–4 (Yes) 0–2 (No)	<i>n</i>	ACE category Mean	SD	<i>t</i>	df	<i>p</i>
Total abuse	Yes	67	0.97	0.90	−1.93	136	.06*
	No	71	1.3	0.91			
Total neglect	Yes	67	1.5	0.84	−0.61	136	.54
	No	71	1.6	0.76			
Total home environment	Yes	67	1.7	1.0	−1.14	136	.26
	No	71	1.9	1.0			
Total ACES	Yes	67	4.2	2.0	−1.84	136	.07**
	No	71	4.8	1.8			

\* Effect size = .40; \*\* Effect size = .22

**Table 4** Treatment types: group statistics and one-way ANOVA's

ACE scale	Treatment type	<i>n</i>	ACEs Mean	SD	<i>F</i>	<i>df</i>	<i>p</i>
Total abuse	Thrivers	35	1.1	1.0	1.75	3/134	.16
	Highly Distressed	46	1.2	.82			
	Resister	21	.71	.96			
	Highly Distressed Resister	36	1.2	.89			
Total neglect	Thrivers	35	1.7	.66	6.02	3/134	.001*
	Highly Distressed	46	1.7	.65			
	Resister	21	.95	1.0			
	Highly Distressed Resister	36	1.5	.81			
Total home environ.	Thrivers	35	1.5	.95	2.95	3/134	.035**
	Highly Distressed	46	2.1	1.1			
	Resister	21	1.5	.98			
	Highly Distressed Resister	36	1.9	1.0			
Total ACES	Thrivers	35	4.4	1.7	5.31	3/134	.002***
	Highly Distressed	46	5.1	1.6			
	Resister	21	3.2	2.2			
	Highly Distressed Resister	36	4.8	2.0			

\* Effect size = .75; \*\* Effect size = .63; \*\*\* Effect size = .95

## Discussion

Adverse childhood experiences are associated with significant functional impairment and poor health in adolescence and adulthood. This study identified differences among multiple types of adverse events with distinct categories of adolescent challenges and strengths in Therapeutic Residential Care (TRC). This study was valuable in its exploration of strength-based factors and various treatment motivations in relation to the negative influences of ACEs since such studies are generally scarce, and even more so with TRC populations.

Analysis of variance models revealed how types of adverse experiences (physical abuse, sexual abuse, neglect and household dysfunction, and total) were related to adolescent strengths of empowerment, social competence, and treatment designations in terms of risk to self-and/or others. Results indicated that 97.8% of youth reported at least one adverse childhood experience (average of 4.53 ACEs). The most commonly reported adverse experiences were emotional abuse (79.9%) and physical neglect (76.3%). Low empowerment and social competence assets had significantly higher ACEs in the areas of abuse, neglect, and total ACEs. Youth categorized as high risk to others but not to self had significantly fewer adverse childhood experiences than others.

## Limitations

The primary limitation of this study is that only two agencies were studied in one geographic area. Other agencies might have different experiences depending on the specific culture of their environment. Further research should investigate what effects

strength building has on youth functioning as associated with consequences from a high number of ACEs and treatment types. Further research should also explore important contextual sources per Tamman, et al., 2020, and those influences on youth motivation. Also, boys and girls are aggregated to one group in this study due to the low number of participating girls ( $n = 30$ ). Further inquiry is needed to possibly explore gender differences in ACEs, perceived strengths, and other areas such as internalizing behavior, self-image, and different coping strategies which may influence treatment motivation.

Further investigation into these issues could illuminate potential solutions and specific applications of the present findings. Also, given that no causality can be asserted in the present study due to the design, it remains unknown whether this process actually translates to high quality services for youth. Further study is needed to discern this.

## Implications for Practice

Study findings support broadening the current discourse on types of adverse events and challenges when considering pathways toward resiliency and treatment type, especially related to strength building for social competence and to a lesser degree empowerment. Clinicians and other TRC staff should be aware that youth in TRC have much higher ACE scores than in the general population, especially related to abuse and neglect. Specific types of adverse childhood experiences, particularly home environment ACEs, should be considered major risk factors for those at risk to self, especially during adolescence.

Clinical practices that might be considered based on these findings include using strength building as ways to blanket ACEs. With the YCRA Resisters treatment type (risk to others), focusing less on trauma-related interventions and more on pro social behavioral ones might be efficacious; and to the extent possible, intervening with families of Highly Distressed and Highly Distressed Resisters treatment types to create more positive home environments. Given that social competence was statistically significant with a strong effect size, practitioners may be well served to probe social competence skills to see where youth are (e.g., higher or lower empathy, planning dealing with conflict), and then leverage and/or build it as a strength.

Empowerment being almost statistically significant may say to practitioners that this area, too, needs to be investigated (e.g., given useful roles in the community?; feeling safe at home, at school, and in the neighborhood?). Opportunities to strengthen empowerment may be almost equally important as strengthening social competence, although it may be more difficult to grow empowerment because some empowerment circumstances may be out of the youth's control (i.e., a safe neighborhood).

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## Declarations

**Informed Consent** The authors confirm that this is a University of Nevada, Reno Institutional Review Board (IRB) approved study and that appropriate informed consent was obtained.

**Conflict of Interest** The authors have no conflicts of interest to declare that are relevant to the content of this article.

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