Evaluating Social Skills Training for Youth With Trauma Symptoms in Residential Programs

Patrick M. Tyler
Child and Family Translational Research Center,
Boys Town, Nebraska

A. Angelique Aitken
University of Nebraska–Lincoln

Jay L. Ringle, Jaime M. Stephenson, and W. Alex Mason
Child and Family Translational Research Center, Boys Town, Nebraska

Objective: Youth who receive services in residential programs have high rates of traumatic exposure and associated symptoms of Posttraumatic Stress Disorder (PTSD). Little information is available on specific social skills training that could be beneficial for youth in residential programs with PTSD. This study examined changes in behavioral incidents and psychopathology in youth receiving group home services based on training they received across three categories of social skills (i.e., self-advocacy, emotional regulation, problem-solving). ***Method:*** The sample included archival data on youth ($N = 677$) ages 10–18 years ($M = 15.7$ years, $SD = 1.53$). Hierarchical Linear Modeling was used to examine the frequency of disruptive and self-injurious behaviors over 12 months as it relates to reported traumatic symptoms at admission and the presence of the three types of social skills objectives. Analysis of Covariance was conducted to test whether the social skill objectives differentially predicted changes in youth psychopathology from intake to discharge for youth with low and high trauma symptoms. ***Results:*** Youth with high trauma symptoms who received training on problem-solving skills had significantly greater decrease in emotional problems from intake to discharge compared to youth with high trauma symptoms who did not receive problem-solving training ($d = -.54$). ***Conclusion:*** Problem-solving training could be further developed and tested to maximize the support youth with trauma symptoms receive in trauma-informed residential programs.

Clinical Impact Statement
Youth with high levels of trauma who received social skills training on problem-solving skills from direct care staff in a residential program had significantly greater decreases in emotional problems compared to youth with high levels of trauma who did not receive this training. Further development and testing of social skills training, in areas such as problem-solving, could improve the trauma-informed services provided by direct care staff in residential programs.

Keywords: children and adolescents, posttraumatic stress disorder, trauma-informed residential programs, social skills training, problem-solving

Traumatic events experienced in childhood can result in Posttraumatic Stress Disorder (PTSD; American Psychiatric Association [APA], 2013; Kisiel, Summersett-Ringgold, Weil, & McClelland, 2017) and can increase the likelihood of other psychiatric conditions (MacDonald et al., 2016), as well as self-injurious behaviors in youth (Briggs et al., 2012; Dyer et al., 2009; Harr, Horn-Johnson, Williams, Jones, & Riley, 2013; Weierich & Nock, 2008; Wherry, Baldwin, Junco, & Floyd, 2013). Estimates of the prevalence of trauma exposure and symptoms show one half to three-quarter of youth receiving mental health services in residential programs have experienced some type of traumatic event (Bettmann, Lundahl, Wright, Jasperson, & McRoberts, 2011; Briggs et al., 2012; Pane

---

Seifert, Farmer, Wagner, Maultsby, & Burns, 2015) and approximately one third have PTSD (Boyer, Hallion, Hammell, & Button, 2009; Mueser & Taub, 2008). Therefore, trauma-informed care is now a requirement for *qualified residential treatment programs* (QRTP; Bipartisan Budget Act of 2018 [2018]). Elements of trauma-informed care include psychoeducation, addressing trauma-related symptoms, preventing recurrence of trauma, and identifying and managing trauma-related triggers (Center for Behavioral Health Statistics & Quality, 2014).

Therapy for PTSD involves stopping maladaptive behaviors and cognitive strategies that maintain PTSD (Ehlers & Clark, 2008). For traumatized children, Bath (2008) suggests the primary focus of work needs to be on teaching children how to manage their emotions and impulses. Exposure to memories and emotions related to traumatic experiences is a key component of evidence-based treatment models, but this technique requires advanced training on the part of practitioners (Cohen, Mannarino, Kliethermes, & Murray, 2012; Dawson et al., 2018). Many evidence-based models that address trauma also include training social skills such as awareness and expression of thoughts and feelings, emotional and self-regulation, problem-solving and goal setting (Bloom & Sreedhar, 2008; Cohen et al., 2012; Ford & Blaustein, 2013; Habib, Labruna, & Newman, 2013; Lenz & Hollenbaugh, 2015; Rosner, König, Neuner, Schmidt, & Steil, 2014). A significant portion of the therapeutic support youth receive in residential programs occurs with direct care staff (Abramovitz & Bloom, 2003; Brown, McCauley, Navalta, & Saxe, 2013; Habib et al., 2013; Trieschman, Whittaker, & Brentro, 1969), who facilitate natural therapeutic interactions through social skills training (Scott & Lorenc, 2007). Social skills training is a component of trauma-informed residential programs that can be delivered by staff who do not have mental health training to administer more advanced therapy techniques, such as exposure-based strategies (Dawson et al., 2018).

A child's past trauma can be a trigger for their maladaptive behavior, which may continue or diminish as the result of consequences in the current environment (Ross, 2007), and these emotional and behavioral problems can often be related to a lack of behavioral skills necessary for healthy social interactions (Spence, Sheffield, & Donovan, 2002). Training of social skills can improve a child's social awareness and self-management (Osher, Bear, Sprague, & Doyle, 2010) and reduce competing problem behaviors by promoting skill acquisition and enhancing skill performance (Cook et al., 2008; Sheridan, Hungelmann, & Maughan, 1999). Social skills training programs are based on principles of operant learning (Skinner, 1953) and social learning theory (Bandura, 1977) that emphasize coaching, modeling, and positive reinforcement (Beelmann, Pfingsten, & Losel, 1994; Cook et al., 2008). There is extensive literature on the use of social skills training for a variety of emotional, behavioral and mental health needs in youth (see Maag, 2006; Spence et al., 2002). Areas of social skills training that are commonly found in residential programs include: social perspective taking skills - that help youth monitor their emotions and feelings; self and emotional regulation skills - that help youth gain greater self-control over their behavior; and problem-solving skills - that help youth address challenging social situations by using consequential thinking to generate alternative solutions (Beelmann et al., 1994; Spence et al., 2002). Results from meta-analyses show medium effect sizes for using social

skills training to address youth conditions such as internalizing and externalizing disorders (Beelmann et al., 1994; Cook et al., 2008; Maag, 2006; Spence et al., 2002), which are common in traumatized youth (Briggs et al., 2012, Boyer et al., Leenarts et al., 2013). For example, Sang and Tan (2018) found significant decreases in anxiety, depression, and withdrawal in youth who received social skills training.

A few studies have looked at the relationship between social skills training by direct care staff and youth outcomes in trauma-informed programs. For instance, the Sanctuary Model (Bloom, 1997) was integrated into a residential milieu to provide direct care staff ways to use skills training in their daily interactions with youth recovering from trauma (Abramovitz & Bloom, 2003; Bloom & Sreedhar, 2008). Rivard, Bloom, McCorkle, and Abramovitz (2005) found youth showed improvements in prosocial and self-reflective problem-solving with this approach. Similarly, Brack, Huefner, and Handwerk (2012) found significant improvement in internalizing and externalizing behaviors in youth exposed to physical and sexual abuse who received services in a group home program that used social skills training. Our prior research (Tyler, Patwardan, Ringle, Chmelka, & Mason, 2019) also found youth with high levels of trauma responded favorably, based on decreases in conduct problems and self-injurious behaviors. However, youth deemed to have lower levels of trauma based on the clinical impression, which was used to determine the service planning objectives (e.g., targeted social skills), made greater decreases in emotional problems. Further research was needed to determine if specific social skills training was related to greater decreases in conduct and emotional problems in youth with high levels of trauma symptoms.

The purpose of this study was to examine social skills training related to outcomes for youth with high levels of trauma symptoms who were receiving group homes services. The three social skills categories (i.e., self-advocacy, emotional regulation, and problem-solving) described above were included to answer our research questions: Is the training of certain social skills related to improved outcomes for youth with trauma symptoms? Is the training of certain social skills related to youth with high trauma symptoms achieving behavioral outcomes similar to youth with low trauma symptoms? Analyses tested the degree to which the targeted social skills trained to youth were associated with changes in: 1) disruptive behavioral incidents and 2) self-injurious behavioral incidents while in care; and 3) conduct problems and 4) emotional problems from intake to discharge. The research was conducted to aid researchers and practitioners in quality improvement efforts for trauma-informed services.

Method

Participants and Procedure

Archival records were used for the analysis, which included youth ($N = 677$) ages 10.3–18.6 years old ($M = 15.7$ years, $SD = 1.53$), of which 67.9% were boys who received group home services in a large social service agency in the Midwest from January 2013–December 2017. Representation by race was as follows: 47.3% Caucasian, 24.5% African American, 12.4% Latino, 10.7% were two or more races, 3.7% American Indian, and 1.4% Asian. The median length of stay in the residential program

was 320 days (SD = 219.37, range 22–1337 days). Some of the data reported in this article was obtained from a dataset reported in a larger previously published study (Tyler, Patwardan, et al., 2019). The Institutional Review Board of the Boys Town National Research Hospital approved the study.

This study also included service plan data for youth who received trauma-informed group home services in the Boys Town Family Home Program (Father Flanagan's Boys' Home, 2015), which implements a modified version (Thompson & Daly, 2015) of the evidence-based Teaching-Family Model (Phillips, Phillips, Fixsen, & Wolf, 1974). Professionally trained direct care staff, (i.e., Family-Teachers) resided with the youth in a family style group living environment and administered social skills training as directed by individualized Youth and Family Service Plans. Trauma-informed components of the model included: trauma screening and assessment; staff trainings on trauma; promoting nurturing environments that ensure youth are physically and emotionally safe; using praise and encouragement to promote self-advocacy and empowerment for youth and families; and teaching and reinforcing social skills to develop youth and families that improve self-efficacy (Father Flanagan's Boys' Home, 2015; Tyler, Patwardan, et al., 2019).

Measures

Social skill objectives. Social skill objectives were used as the independent variables, obtained from the Youth and Family Service Plans (Father Flanagan's Boys' Home, 2012). Specific social skills varied by youth as they were prioritized in service plans to meet individualized youth needs based on assessments and ongoing staff observations. Staff in the group homes taught youth the social skills from a manual, as replacement behaviors to eliminate or reduce conduct and emotional problems. Thirty-eight life skills from Tierney, Green, and Dowd (2016) were grouped into three categories: self-advocacy, emotional regulation, and problem-solving. Overall, 50.4% of youth had a self-advocacy skill (12 items, e.g., asking for help, expressing feelings; composite reliability (CR) = .74), 58.5% had an emotional regulation skill (14 items, e.g., calming down, dealing with frustration; CR = .75), and 37.1% had a problem-solving skill (12 items, e.g., problem-solving, planning ahead; CR = .73). Each social skill objective was coded (no = 0, yes = 1) based on inclusion in the youth's service plan. As such, each youth could have between zero and three of the social skill objectives in their service plan.

Social skills were taught to the youth by the staff. For example, the steps to structured problem-solving included: 1) Define the problem situation, 2) generate two or more options, 3) look at each option's potential disadvantages, 4) look at each option's potential advantages, 5) and decide on the best solution (Tierney et al., 2016, p. 139). Staff then modeled and practiced the use of the skill with the youth, and used positive reinforcement to promote generalization and maintenance of the skills when the youth used the skills in the program. The rate at which youth demonstrated the skills were tracked on a daily basis and the overall progress made was measured and recorded on the service plan.

Trauma symptoms and exposure. Prior research has shown a significant relationship between trauma symptoms and youth emotional and behavioral problems (Leenarts et al., 2013; Yoon, Steigerwald, Holmes, & Perzynski, 2016). Trauma symptoms

were, therefore, used to determine youth in high and low trauma groups via the Brief Trauma Symptom Screen for Youth (BTSSY) (Tyler, Mason, et al., 2019) for group comparison. The BTSSY consists of 6 items (e.g., intrusive thoughts, physiological reactions) based on the Diagnostic Statistical Manual of Mental Disorders–5, (*DSM–5*) (APA, 2013) symptoms of PTSD, which are rated on a 3-point Likert-type scale ranging from 0 (not true) to 2 (certainly true). Prior testing of the BTSSY showed the instrument had acceptable composite reliability (CR = .80), and convergent validity, r = .64, p < .001 with the PTSD-Reaction Index (Pynoos, Rodriguez, Steinberg, Stuber, & Frederick, 1998). Youth completed a self-report paper version of the BTSSY during the Youth Program Orientation following admission. Two categories were created for trauma symptoms (low = 0, high = 1) based on a total score of three or more, as indicated in prior research (Tyler, Mason, et al., 2019).

For descriptive purposes, trauma exposure was measured according to nine constructs (e.g., physical abuse, neglect; see Tyler, Patwardan, et al., 2019) adapted from the Adverse Childhood Experiences study (ACE) (Felitti et al., 1998). Youth records based on admission interviews were the sources of the trauma exposure variables. Items were dichotomized (0 = no, 1 = yes) and scores could range from 0–9, CR = .82. Ninety-six percent of the youth in the sample had experienced at least one traumatic event, and 36.6% had experienced five or more.

Behavioral incidents. Youth behavioral incidents were reported by staff using the Daily Incident Report (DIR) (Handwerk et al., 2006). The reliability of the DIR has been established in prior research (Larzelere, 1996). The DIR consisted of incident report data collected from the agency's electronic youth record based on staff observations of significant youth behaviors documented daily. To measure risk behaviors commonly displayed by youth who have been exposed to trauma (Gonzalez & Neander, 2018; Leenarts et al., 2013; Walker, Hirsch, Chang, & Jeglic, 2017), 15 indicators of behavioral incidents were aggregated into two indices capturing disruptive behavioral incidents (12 items; e.g., physical aggression, property damage) and self-injurious incidents (3 items; e.g., self-destructive behavior, suicidal ideation). Incidents were zero inflated (i.e., most youth had no incidents on any given day) and were summed separately by month for the first year in the program. Thus, each youth could have up to 12 monthly disruptive and self-injurious behavior scores.

Psychopathology. Evidence shows a significant relationship between deficits in social skills and emotional and behavioral adjustment in children (Spence et al., 2002). Youth emotional and conduct problems were, therefore, assessed based on caregiver reports using the Strengths and Difficulties Questionnaire (SDQ) (Goodman, 2001; Goodman, Meltzer, & Bailey, 1998). The SDQ has acceptable reliability and validity as a brief measure of psychopathology in children and adolescents. Raters indicate how true each statement described youth behavior on a 3-point Likert-type scale ranging from 0 (not true) to 2 (certainly true). For this study, we used two SDQ subscales: Emotional Problems (five items, sample α = .73) and Conduct Problems (five items, sample α = .76). The youths' legal guardians/caregivers were the caregiver reporters on the SDQ at intake. The Family-Teachers were the reporters at discharge since youth had not resided in their parents' home during the discharge assessment period.

Data Analyses

Descriptive analyses were conducted using SPSS 25 (IBM Corp, 2017). Pearson product–moment correlation coefficients were computed to assess bivariate relationships, and chi-square tests for dichotomous outcomes and t tests for continuous outcomes were conducted. Hierarchical Linear Modeling (HLM) (Raudenbush & Bryk, 2002) was used to examine the frequency of disruptive and self-injurious behaviors over 12 months as it relates to reported traumatic symptoms at admission and the presence of the three social skills objectives. A mixed Analysis of Covariance was conducted with psychopathology (i.e., conduct, and emotional problems) as the repeated dependent variables to test whether the social skill objectives differentially predicted change in youth psychopathology from intake to discharge for youth with low and high trauma symptoms. Sex, age, and length of stay were controlled for in both models. There was no missing data for the dependent variables or covariates.

Results

Descriptives

Trauma and social skill groups. The mean score of trauma symptoms on the BTSSY for the sample was 2.20 ($SD = 2.40$, range 0–11), and 34.9% of youth in the total sample were in the high trauma symptom group. The internal consistency for this sample was $\alpha = .75$. The pattern of relationship for sex was significant $\chi^2(1, N = 677) = 31.27, p < .001$, with 49.8% of girls in the high trauma symptom group compared to 27.8% of boys. Youth reported trauma symptom scores had a significant positive relationship with trauma exposure, $r = .26, p < .001$, caregiver reports of youth emotional problems, $r = .29, p < .001$, and self-injurious behavior incidents, $r = .15, p < .001$. The sample mean of traumatic experiences was 3.84 ($SD = 2.25$, range 0–9), and 96.6% had at least one. Rates of abuse and neglect for the sample were as follows: 62.6% emotional abuse, 29.6% physical abuse, 19.4% sexual abuse, and 60.6% neglect.

The distribution of social skill objectives differed between the high trauma symptom groups for problem-solving and emotional regulation. Fewer youth in the high trauma symptom group had a problem-solving objective ($n = 78$), $\chi^2(1, N = 236) = 27.12, p < .001$, whereas more such youth had an emotional regulation objective ($n = 149$), $\chi^2(1, N = 236) = 16.29, p < .001$. There was not a significant difference for self-advocacy ($n = 131$), $\chi^2(1, N = 236) = 2.86, p = .09$.

Psychopathology and behavioral incidents. Means and standard deviations of the psychopathology and behavioral incident variables were as follows: conduct ($M = 4.32, SD = 2.60$) and emotional problems at intake ($M = 3.51, SD = 2.45$). There were differences based on sex, with boys having higher conduct problems ($M = 4.55, SD = 2.56$) than girls ($M = 3.84, SD = 2.61$), $t(675) = -3.34, p = .001$, and girls ($M = 4.37, SD = 2.42$) having higher emotional problems than boys ($M = 3.11, SD = 2.64$), $t(675) = 6.43, p < .001$. The mean for disruptive behavioral incidents was .61 per month ($SD = 1.11$) and did not differ by sex. The overall mean for monthly self-injurious behavior was .04 ($SD = .13$, range 0–1.82) and girls ($M = .07, SD = .14$) had more self-injurious incidents than boys ($M = .03, SD = .12$), $t(389.87) = 3.19, p = .002$.

HLM Analysis

Disruptive behaviors. *Unconditional & Level 1 Model.* Upon examining the data structure, it was determined that a linear model was the best fit. The unconditional model revealed significant variation in disruptive behaviors ($\beta = .544, t(8050) = 11.60, p < .001$). Results indicated that the overall time trend was significant ($\beta = -.071, t(8049) = -6.97, p < .001$), indicating that disruptive behaviors decreased over the first 12 months in the program.

Social skills objectives—combined models (levels 1 and 2). We created four grouping variables that modeled the different combinations of trauma (no/yes) and the presence of the social skill objective (no/yes), and also included age (mean centered on 15.7 years), length of stay (mean-centered on 11.2 months), and being male. For this model, all trauma/social skill objective grouping variables were included except for trauma = high/social skill objective = no. As such, this variable became the reference for which to compare.

Results showed younger youth ($\beta s = -.245--.249, t(8037) = -8.98--9.22, ps < .001$) and those who stayed a shorter amount of time ($\beta s = -.092--.100, t(8037) = -8.39--11.07, ps < .001$) engaged in more disruptive behaviors during the first month across all three objectives. Conversely, the trauma = low/self-advocacy = yes ($\beta = -.356, t(8037) = -2.37, p = .018$) and trauma = low/problem solving = yes ($\beta = -.385, t(8037) = -2.34, p = .007$) groups engaged in fewer disruptive behaviors during the first month of their stay than the trauma = high/self-advocacy = no and trauma = high/problem solving = no groups respectively.

The time component showed those with longer lengths of stay in the emotional regulation ($\beta = .004, t(8037) = 2.10, p = .035$) and problem-solving ($\beta = .004, t(8037) = 2.11, p = .035$) groups engaged in significantly more disruptive behaviors. However, there was a nonsignificant trend for the trauma = high/problem solving = yes group to have a faster rate of decline in disruptive behaviors over time compared to the trauma = high/problem solving = no group ($\beta = -.053, p = .053$). Figure 1 displays fitted lines for the trauma = high/problem-solving = no and trauma = high/problem solving = yes groups. Table 1 presents the fixed-effects, event rate ratios, and 95% confidence intervals for this analysis.

Self-injurious behaviors. *Unconditional and Level 1 Model.* Self-injurious behavior was significant for the unconditional base model, indicating that there was significant variation in the measured behaviors ($\beta = -1.95, t(8050) = -23.33, p < .001$). The number of self-injurious behaviors showed a curvilinear pattern, meaning they decreased quickly during the first month after admission and then decreased at a slower rate for the remaining 11 months measured. Therefore, time (i.e., month) was used for the Level 1 model of the overall shape of the curve and the square root of time for the initial curve or accelerated decrease in behavior. Results indicated that the initial deceleration (square root of time) in self-injurious behaviors to be nonsignificant, $\beta = -.016, t(8048) = -.31, p = .756$. Further, the overall time trend was also nonsignificant ($\beta = -.200, t(8048) = -1.42, p = .156$). Although nonsignificant, modeling the time components are important elements when examining if there are differences in behavior among youth during their stay and thus retained.
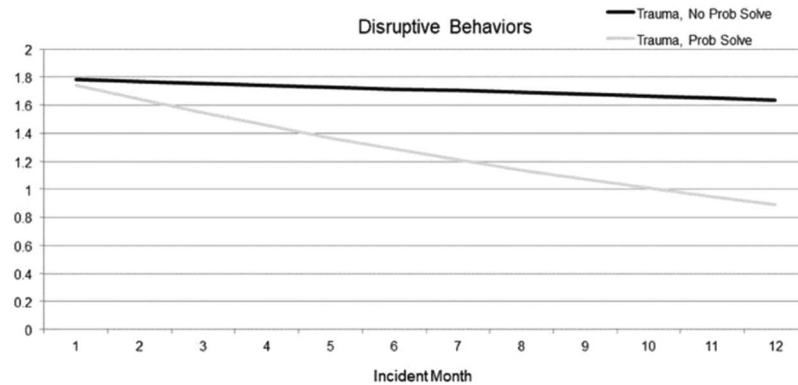
Figure 1. Example of estimated disruptive behaviors over time for the trauma = high/problem-solving = yes and trauma = high/problem-solving = no groups.

Social skills objectives—combined models (levels 1 and 2). Similar to disruptive behavior, age ($\beta s = -.186--.212$, $t(8030) = -2.97-3.93$, $ps < .001$) and length of stay ($\beta s = -086--.099$, $t(8030) = -4.05-4.31$, $ps < .001$) were significant, indicating that younger youth and those who stayed a shorter amount of time engaged in more self-injurious behaviors during their first month. The trauma = low/problem solving = yes ($\beta = -.810$, $t(8039) = -2.68$, $p = .008$) and the trauma = low/problem solving = no ($\beta = -.640$, $t(8039) = -2.66$, $p = .005$) groups were also significant, suggesting that these two groups engaged in fewer self-injurious behaviors during the first month of their stay than the trauma-high/problem solving = no group. Additionally, the trauma = low/problem solving = yes group engaged in fewer self-injurious behaviors over time compared to the trauma = low/problem solving = no group ($\beta = -.140$, $p = .008$).

Trauma, Psychopathology, and Social Skill Objectives

To test whether the social skill objectives predicted change in psychopathology from intake to discharge we conducted a four-way, 2 (trauma symptom groups: low, high) × 2 (self-advocacy: no, yes) × 2 (emotional regulation: no, yes) × 2 (problem-solving: no, yes) mixed Analysis of Covariance with repeated measures at intake (pretest 1) and discharge (posttest 2) for conduct and emotional problems. Test of homogeneity of variance using Levene's test of equality showed the dependent variables were equal across the groups at intake with conduct problems, $F(15, 661) = 1.03$, $p = .421$; and emotional problems $F(15, 661) = .992$, $p = .462$. Age and sex were included as covariates along with length of stay to control for differences.

Conduct problems. For conduct problems, there was a significant between-subjects effect for age, $F(1, 657) = 26.83$, $p < .001$, $\eta_p^2 = .04$, with younger youth having higher conduct problems ($B = -.253$). Sex differences, $F(1, 657) = 7.37$, $p = .007$, $\eta_p^2 = .01$, were also significant with boys ($B = .509$) having higher conduct problems than girls. Self-advocacy was significant $F(1, 657) = 10.03$, $p = .002$, $\eta_p^2 = .02$, showing youth with a self-advocacy objective had lower conduct problems. There was a significant within subjects interaction for time by length of stay $F(1, 657) = 47.67$, $p < .001$, $\eta_p^2 = .06$, showing longer length of stays were associated with a greater decrease in conduct problems from intake to discharge ($B = -.004$, $p < .001$).

Emotional problems. For emotional problems, between subject effects revealed significant main effects for sex $F(1, 657) = 31.18$, $p < .001$, $\eta_p^2 = .05$, with girls ($B = -.884$) having significantly higher emotional problem scores than boys. There were significant between subjects effects with lower emotional problems in the problem-solving groups, $F(1, 657) = 4.75$, $p = .03$, $\eta_p^2 = .01$, and higher emotional problems in the self-advocacy, $F(1, 657) = 13.58$, $p < .001$, $\eta_p^2 = .02$, and emotional regulation, $F(1, 657) = 10.06$, $p = .002$, $\eta_p^2 = .02$, groups. There was also a significant between subjects effect with higher emotional problem in the high trauma symptoms groups $F(1, 657) = 21.31$, $p < .001$, $\eta_p^2 = .03$. There was also a significant between subjects interaction for self-advocacy by trauma symptoms, $F(657) = 6.40$, $p = .012$, $\eta_p^2 = .01$, with the highest emotional problems in the trauma symptom = high/self-advocacy = yes group, and the lowest emotional problems in the trauma symptom = low/self-advocacy = no group.

Most notably there was a three-way within subjects interaction for time by problem-solving by trauma symptoms $F(1, 657) = 5.81$, $p = .016$, $\eta_p^2 = .01$. Follow-up tests, see Figure 2, revealed that emotional problems were not significantly different for youth

Table 1
HLM Disruptive Behavior and Problem-Solving

| Variable	B	SE	Event rate ratio	95% CI	p
Intercept (disruptive behaviors)	.577	.11	1.78	[1.41, 2.24]	.000
Mean age	−.244	.03	.78	[.74, .83]	.000
Male	.153	.09	1.16	[.95, 1.43]	.110
LOS(months)	−.093	.01	.91	[.90, .93]	.000
Trauma Y; ProbSolv Y	−.021	.18	.98	[.67, 1.44]	.907
Trauma N; ProbSolv Y	−.385	.14	.68	[.49, .44]	.007
Trauma N; ProbSolv N	.026	.11	1.03	[.82, 1.29]	.816
Month in program (slope)	−.008	.02	.99	[.95, 1.04]	.709
Mean age	−.002	.01	1.00	[.99, 1.01]	.716
Male	−.015	.02	.99	[.95, 1.03]	.430
LOS(months)	.004	.00	1.00	[1.00, 1.01]	.035
Trauma Y; ProbSolv Y	−.053	.03	.95	[.88, 1.02]	.053
Trauma N; ProbSolv Y	.002	.03	1.00	[.94, 1.06]	.946
Trauma N; ProbSolv N	−.011	.02	.99	[.94, 1.04]	.666

EMOTIONAL PROBLEMS
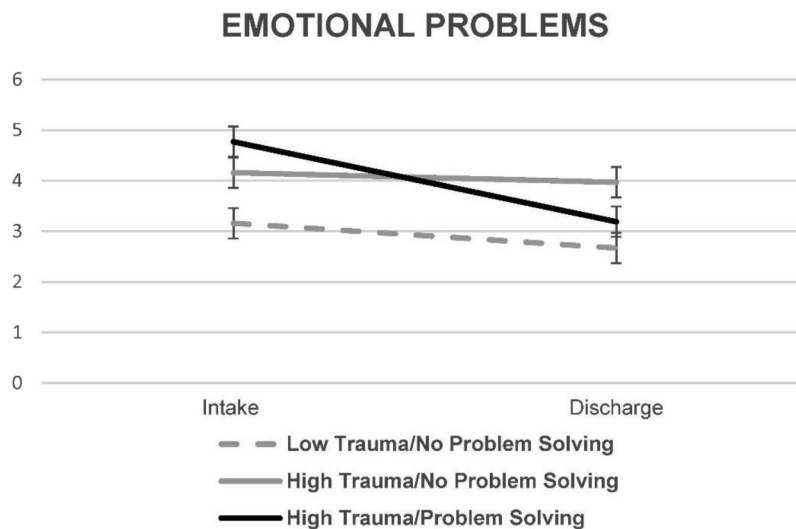
Figure 2. Group mean comparisons of emotional problems from intake to discharge for the trauma = high/problem-solving = yes group compared to the trauma = high/problem-solving = no and trauma = low/problem-solving = no groups.

in the trauma = high/problem solving = yes and trauma = high/problem solving = no groups at intake (*M* = 4.77, *SD* = 2.64 vs. *M* = 4.16, *SD* = 2.54, respectively, *p* = .088). However, youth in the trauma = high/problem solving = yes group had significantly lower emotional problem scores at discharge (*M* = 3.19, *SD* = 2.67) compared to the trauma = high/problem solving = no group (*M* = 3.97, *SD* = 2.81, *p* = .044, *d* = −.54). The trauma = high/problem solving = yes group also had significantly higher emotional problems than the trauma = low/problem solving = no group at intake (*M* = 3.16, *SD* = 2.25, *p* < .001), but not at discharge (*M* = 2.67, *SD* = 2.40, *p* = .101, *d* = −.47).

Discussion

The rates of trauma exposure and PTSD among youth entering residential programs requires programming that emphasizes trauma-informed care (Bettmann et al., 2011; Boyer et al., 2009; Briggs et al., 2012; Pane Seifert et al., 2015). Direct care staff provide social skills training to youth during natural interactions within the residential milieu to improve pro-social behavior and reduce emotional and behavior problems (Bloom & Sreedhar, 2008; Brack et al., 2012; Handwerk et al., 2006; Rivard et al., 2005; Tyler, Patwardan, et al., 2019). We examined social skills training in three areas - self-advocacy, emotional regulation, and problem-solving - to determine if the training of specific social skills was related to greater decreases in disruptive and self-injurious behaviors and conduct and emotional problems among youth with low and high trauma symptoms receiving group home services.

Regarding the first research question, problem-solving training was related to the greatest decreases in behavioral incidents and psychopathology overall. There was a decrease in disruptive behavior trending toward significance (*p* = .053) for those in the trauma = high/problem solving = yes group compared to the trauma = high/problem solving = no group. The nonsignificant result may have been due to low statistical power because of the

size of the trauma = high/problem solving = yes group, nonetheless, we reported this result because of the potential safety implications. Treatment programs that have included interpersonal problem-solving have shown reductions in disruptive behaviors, including aggression (Lochman & Curry, 1986). For example, a study by Martin, Krieg, Esposito, Stubbe, and Cardona (2008) found that using collaborative problem solving with staff and youth in a residential program (Greene, Ablon, Hassuk, Regan, & Martin, 2006) improved safety by decreasing seclusions and re-straints. Some have suggested general social skills training may be more effective for reducing observable disruptive behavior (Blake & Hamrin, 2007), whereas problem-solving may be related to greater reductions in self-reported anger intensity and arousal (Sukhodolsky, Kassinove, & Gorman, 2004). Takahashi, Koseki, and Shimada (2009) also found differences based on age, with adolescents showing greater ability to use problem-solving skills to manage aggressive behavior compared to younger children. Continuing to explore strategies that promote safer environments (e.g., decreased aggressive behavior, decreased seclusion/re-straints) for youth across different developmental stages is critical for trauma-informed residential programs.

For self-injurious behaviors, there were no differences between the high trauma groups based on the social skill objectives; but, the monthly rates of self-injurious behavior were quite low, indicating a possible floor effect. However, the trauma = low/problem solving = yes group had a greater decrease over time in self-injurious behaviors. This finding converged with research showing an inverse relationship between problem-solving and self-injurious behavior (Gonzalez & Neander, 2018; Walker et al., 2017). Problem-solving skill development has been recommended to address suicidal ideation in youth (Hetrick et al., 2014). Consistent with this suggestion, decreased rates of suicidal ideation, anxiety, and depression were reported in an experimental group that received problem-solving skills training compared to controls (Raj, Kuma-raiah, & Bhide, 2001). The impact problem-solving skills training

can have on self-injurious behaviors (e.g., suicidal ideation, self-harm) warrants further attention.

For conduct and emotional problems, the results revealed a significant within subject interaction for time by length of stay indicating that youth with longer length of stays showed significant decreases from intake to discharge. These decreases were evident for youth across all three types of social skill objectives, but with notable differences between the groups. Youth who received training on self-advocacy showed decreased rates of conduct and emotional problems, but these youth had lower rates of conduct problems and higher rates of emotional problems, overall, especially in the high trauma group. Youth who received training on emotional regulation also showed decreased rates of conduct and emotional problems, but had higher rates, overall, in emotional problems. There was, however, a significant interaction for emotional problems in high trauma youth who received social skills training on problem-solving. The trauma = high/problem solving = yes group experienced a greater decrease in emotional problems from intake to discharge compared to trauma = high/problem solving = no group, and had significantly lower emotional problems at discharge, resulting in a nonsignificant difference with the trauma = low/problem solving = no group (see Figure 2). This finding answered the second research question by showing that youth with high trauma symptoms who received problem-solving training had the most significant decreases in emotional problems, resulting in problems at discharge that were more similar to their peers in the low trauma group.

It is notable, that there was a significant interaction for problem-solving by trauma by time, even after controlling for the other social skills categories (i.e., self-advocacy, emotional regulation), but not the other two categories. This could be partially explained by the effect size of the different social skills. For example, past research has reported medium effect sizes for problem-solving training for youth with internalizing and externalizing disorders, while self-advocacy and emotional regulation skills training showed smaller effects (Beelmann et al., 1994). The result could also be related to the limitations of this study, such as the use of secondary data that were collected for clinical rather than research purposes. Measurements of the timing, frequency, and progress made on the objectives were also not available. Different caregiver reporters were also used at intake (i.e., parent) and discharge (i.e., Family-Teachers) because youth were placed in out-of-home care. Finally, the study occurred in only one agency and may not generalize to other populations, residential programs, or service settings.

In spite of the limitations, the results converged with prior research and have important theory, practice, and policy implications. Several studies have shown problem-solving training to be an effective intervention for a variety of treatment needs associated with traumatic stress (Maddern, Cadogan, & Emerson, 2006; Nezu, Nezu, & D'Zurilla, 2013; Oflaz, Hatipoğlu, & Aydin, 2008; Tenhula et al., 2014). A controlled trial by Dawson et al. (2018) reported significant decreases in self and caregiver reported PTSD and anger in youth who received problem-solving training, with effects that were comparable to Trauma-Focused Cognitive Behavior Therapy (Cohen et al., 2012). In another study, Dialectical Behavior Therapy Skills Training for Emotional Problem Solving for Adolescents (Mazza, Dexter-Mazza, Miller, Rathus, & Murphy, 2016) was used to teach students decision-making and coping

strategies in a school setting and showed significant reductions in emotional symptoms and internalizing problems with large effect sizes (Flynn, Joyce, Weihrauch, & Corcoran, 2018). Weller, Leve, Kim, Bhimji, and Fisher (2015) found that a decision-making intervention had neurocognitive benefits in girls with a history of maltreatment based on increases in expected value sensitivity. Weller et al. (2015) suggests there is a degree of plasticity in decision-making in early adolescence and that enriched environments could ameliorate some of the deficits from early maltreatment. Our study extended prior research by showing how problem-solving training was associated with decreased emotional problems in youth with high trauma symptoms receiving group home services, but experimental research is needed to make any causal inferences.

In conclusion, problem-solving contributes to the development of resiliency (Williams, Lindsey, Kurtz, & Jarvis, 2001) and is an identified protective factor in adolescents exposed to mass traumatic events like war (Fayyad et al., 2017), civil conflicts (Dawson et al., 2018), and terrorist attacks (Braun-Lewensohn et al., 2009). As a protective factor, problem-solving training improves one's ability to set and achieve goals and assess the likelihood of consequences by evaluating the pros and cons of potential solutions (Eyberg, Nelson, & Boggs, 2008; Hetrick et al., 2014; Webster-Stratton, Reid, & Hammond, 2001). These skills can improve a person's ability to cope with a variety of stressful events (Tenhula et al., 2014) and increase feelings of control by breaking "unsolvable" problems down into smaller units (Hobfoll et al., 2007). Problem-solving training can potentially serve as a prevention strategy to improve protective factors, as well as a treatment intervention to address symptoms associated with trauma exposure.

Problem-solving is a component of many treatment models for trauma (Cohen et al., 2012; Lenz & Hollenbaugh, 2015; Mazza et al., 2016; Nezu et al., 2013; Rivard et al., 2005; Rosner et al., 2014) that can also be administered without advanced clinical training or education. Problem-solving skills can be trained by a variety of adults in different settings by using consistent skill steps (see Nezu & Nezu, 2001; Tierney et al., 2016, p. 139). In residential programs, direct care staff can train youth to use problem-solving skills in everyday situations while in the program, at home and in school to promote generalization (Sheridan et al., 1999). Educators and caregivers can also teach and reinforce the use of problem-solving by youth to improve sustainability of the skills, which is another important component of trauma-informed care (Nisenbaum, 2013; Zelechoski et al., 2013). Because it can be provided by para-professionals (Dawson et al., 2018), problem-solving training has been a recommended strategy to improve the access to mental health services in regions (e.g., rural areas) that lack mental health resources (e.g., trained professionals) (Patel, Chowdhary, Rahman, & Verdeli, 2011). Problem-solving skills training is one example of a technique that could involve more members of the community to increase support for children who have experienced trauma and do so in a cost-effective way (Patel et al., 2011).

In summary, problem-solving training was associated with significant decreases in emotional problems for youth with high trauma symptoms. It is a skill professionals and caregivers can use to help young people move from traumatic situations they perceive as having little control over to focusing on situations over which

they do have control (Habib et al., 2013). This is in line with supportive therapeutic approaches that are about empowering youth to improve their social function so they can find "freedom from being haunted by the past" (Abramovitz & Bloom, 2003) (p. 131). Future research should continue to develop and evaluate social skills training in trauma-informed residential programs to help youth heal, overcome adversity, and build resiliency.

References

Abramovitz, R., & Bloom, S. L. (2003). Creating sanctuary in residential treatment for youth: From the "well-ordered asylum" to a "living-learning environment." *Psychiatric Quarterly, 74,* 119–135. http://dx.doi.org/10.1023/A:1021303710275

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders (DSM–5).* Washington, DC: American Psychiatric Publication.

Brack, A. B., Huefner, J. C., & Handwerk, M. L. (2012). The impact of abuse and gender on psychopathology, behavioral disturbance, and psychotropic medication count for youth in residential treatment. *American Journal of Orthopsychiatry, 82,* 562–572. http://dx.doi.org/10.1111/j.1939-0025.2012.01177.x

Bandura, A. (1977). *Social learning theory.* Englewood Cliffs, NJ: Prentice Hall.

Bath, H. (2008). The three pillars of trauma-informed care. *Reclaiming Children and Youth, 17,* 17–21.

Beelmann, A., Pfingsten, U., & Losel, F. (1994). Effects of training social competence in children: A meta-analysis of recent evaluation studies. *Journal of Clinical Child Psychology, 23,* 260–271. http://dx.doi.org/10.1207/s15374424jccp2303_4

Bettmann, J. E., Lundahl, B. W., Wright, R., Jasperson, R. A., & McRoberts, C. H. (2011). Who are they? A descriptive study of adolescents in wilderness and residential programs. *Residential Treatment for Children & Youth, 28,* 192–210. http://dx.doi.org/10.1080/0886571X.2011.596735

Bipartisan Budget Act of 2018. (2018). Retrieved from https://www.congress.gov/115/bills/hr1892/BILLS-115hr1892enr.pdf

Blake, C. S., & Hamrin, V. (2007). Current approaches to the assessment and management of anger and aggression in youth: A review. *Journal of Child and Adolescent Psychiatric Nursing, 20,* 209–221. http://dx.doi.org/10.1111/j.1744-6171.2007.00102.x

Bloom, S. L. (1997). *Creating Sanctuary: Toward the evolution of sane societies.* New York, NY: Routledge.

Bloom, S. L., & Sreedhar, S. Y. (2008). The sanctuary model of trauma-informed organizational change. *Reclaiming Children and Youth, 17,* 48–53.

Boyer, S. N., Hallion, L. S., Hammell, C. L., & Button, S. (2009). Trauma as a predictive indicator of clinical outcome in residential treatment. *Residential Treatment for Children & Youth, 26,* 92–104. http://dx.doi.org/10.1080/08865710902872978

Braun-Lewensohn, O., Celestin-Westreich, S., Celestin, L.-P., Verleye, G., Verté, D., & Ponjaert-Kristoffersen, I. (2009). Coping styles as moderating the relationships between terrorist attacks and well-being outcomes. *Journal of Adolescence, 32,* 585–599. http://dx.doi.org/10.1016/j.adolescence.2008.06.003

Briggs, E. C., Greeson, J. K., Layne, C. M., Fairbank, J. A., Knoverek, A. M., & Pynoos, R. S. (2012). Trauma exposure, psychosocial functioning, and treatment needs of youth in residential care: Preliminary findings from the NCTSN Core Data Set. *Journal of Child & Adolescent Trauma, 5,* 1–15. http://dx.doi.org/10.1080/19361521.2012.646413

Brown, A. D., McCauley, K., Navalta, C. P., & Saxe, G. N. (2013). Trauma systems therapy in residential settings: Improving emotion regulation and the social environment of traumatized children and youth in congregate care. *Journal of Family Violence, 28,* 693–703. http://dx.doi.org/10.1007/s10896-013-9542-9

Center for Behavioral Health Statistics and Quality. (2014). *Trauma-informed care in behavioral health services* (SMA Publication No. 14–4816). Substance Abuse and Mental Health Services Administration for Substance Abuse Treatment. United States Department of Health and Human Services. Retrieved from https://store.samhsa.gov/shin/content//SMA14-4816/SMA14-4816.pdf

Cohen, J. A., Mannarino, A. P., Kliethermes, M., & Murray, L. A. (2012). Trauma-focused CBT for youth with complex trauma. *Child Abuse & Neglect, 36,* 528–541. http://dx.doi.org/10.1016/j.chiabu.2012.03.007

Cook, C. R., Gresham, F. M., Kern, L., Barreras, R. B., Thornton, S., & Crews, S. D. (2008). Social skills training for secondary students with emotional and/or behavioral disorders: A review and analysis of the meta-analytic literature. *Journal of Emotional and Behavioral Disorders, 16,* 131–144. http://dx.doi.org/10.1177/1063426608314541

Dawson, K., Joscelyne, A., Meijer, C., Steel, Z., Silove, D., & Bryant, R. A. (2018). A controlled trial of trauma-focused therapy versus problem-solving in Islamic children affected by civil conflict and disaster in Aceh, Indonesia. *Australian and New Zealand Journal of Psychiatry, 52,* 253–261. http://dx.doi.org/10.1177/0004867417714333

Dyer, K. F., Dorahy, M. J., Hamilton, G., Corry, M., Shannon, M., MacSherry, A., . . . McElhill, B. (2009). Anger, aggression, and self-harm in PTSD and complex PTSD. *Journal of Clinical Psychology, 65,* 1099–1114. http://dx.doi.org/10.1002/jclp.20619

Ehlers, A., & Clark, D. M. (2008). Posttraumatic stress disorder: The development of effective psychological treatments. *Nordic Journal of Psychiatry, 62*(suppl. 47), 11–18. http://dx.doi.org/10.1080/08039480802315608

Eyberg, S. M., Nelson, M. M., & Boggs, S. R. (2008). Evidence-based psychosocial treatments for children and adolescents with disruptive behavior. *Journal of Clinical Child and Adolescent Psychology, 37,* 215–237. http://dx.doi.org/10.1080/15374410701820117

Father Flanagan's Boys' Home. (2012). *Family Home Program: Service planning manual.* Boys Town, NE: Father Flanagan's Boys' Home.

Father Flanagan's Boys' Home. (2015). *Family Home Program: Program manual.* Boys Town, NE: Father Flanagan's Boys' Home.

Fayyad, J., Cordahi-Tabet, C., Yeretzian, J., Salamoun, M., Najm, C., & Karam, E. G. (2017). Resilience-promoting factors in war-exposed adolescents: An epidemiologic study. *European Child & Adolescent Psychiatry, 26,* 191–200. http://dx.doi.org/10.1007/s00787-016-0871-0

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., . . . Marks, J. S. (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,* 245–258. http://dx.doi.org/10.1016/S0749-3797(98)00017-8

Flynn, D., Joyce, M., Weihrauch, M., & Corcoran, P. (2018). Innovations in practice: Dialectcial behaviour therapy—skills training for emotional problem solving for adolescents (DBT STEPS-A): evaluation of a pilot implementation in Irish post-primary schools. *Child and Adolescent Mental Health, 23,* 376–380. http://dx.doi.org/10.1111/camh.12284

Ford, J. D., & Blaustein, M. E. (2013). Systemic self-regulation: A framework for trauma-informed services in residential juvenile justice programs. *Journal of Family Violence, 28,* 665–677. http://dx.doi.org/10.1007/s10896-013-9538-5

Gonzalez, V. M., & Neander, L. L. (2018). Impulsivity as a mediator in the relationship between problem solving and suicidal ideation. *Journal of Clinical Psychology, 74,* 1626–1640. http://dx.doi.org/10.1002/jclp.22618

Goodman, R. (2001). Psychometric properties of the strengths and difficulties questionnaire. *Journal of the American Academy of Child & Adolescent Psychiatry, 40,* 1337–1345. http://dx.doi.org/10.1097/00004583-200111000-00015

Goodman, R., Meltzer, H., & Bailey, V. (1998). The Strengths and Difficulties Questionnaire: A pilot study on the validity of the self-report version. *European Child & Adolescent Psychiatry, 7,* 125–130. http://dx.doi.org/10.1007/s007870050057

Greene, R. W., Ablon, J. S., Hassuk, B., Regan, K. M., & Martin, A. (2006). Innovations: Child & adolescent psychiatry: Use of collaborative problem solving to reduce seclusion and restraint in child and adolescent inpatient units. *Psychiatric Services, 57,* 610–612. http://dx.doi.org/10.1176/ps.2006.57.5.610

Habib, M., Labruna, V., & Newman, J. (2013). Complex histories and complex presentations: Implmentation of a manually guided group treatment for traumatized adolescents. *Journal of Family Violence, 28,* 717–728. http://dx.doi.org/10.1007/s10896-013-9532-y

Handwerk, M. L., Clopton, K., Huefner, J. C., Smith, G. L., Hoff, K. E., & Lucas, C. P. (2006). Gender differences in adolescents in residential treatment. *American Journal of Orthopsychiatry, 76,* 312–324. http://dx.doi.org/10.1037/0002-9432.76.3.312

Harr, C. R., Horn-Johnson, T. C., Williams, N. J., Jones, M., & Riley, K. (2013). Personal trauma and risk behaviors among youth entering residential treatment. *Child & Adolescent Social Work Journal, 30,* 383–398. http://dx.doi.org/10.1007/s10560-013-0297-1

Hetrick, S., Yuen, H. P., Cox, G., Bendall, S., Yung, A., Pirkis, J., & Robinson, J. (2014). Does cognitive behavioral therapy have a role in improving problem solving and coping in adolescents with suicidal ideation? *Cognitive Behaviour Therapist, 7,* 1–15.

Hobfoll, S. E., Watson, P., Bell, C. C., Bryant, R. A., Brymer, M. J., Friedman, M. J., . . . Ursano, R. J. (2007). Five essential elements of immediate and mid-term mass trauma intervention: Empirical evidence. *Psychiatry: Interpersonal and Biological Processes, 70,* 283–315. http://dx.doi.org/10.1521/psyc.2007.70.4.283

IBM Corp. (2017). IBM SPSS statistics for Windows (Version 25.0). Armonk, NY: Author.

Kisiel, C., Summersett-Ringgold, F., Weil, E. G., & McClelland, G. (2017). Understanding strengths in relation to complex trauma and mental health symptoms in child welfare. *Journal of Child and Family Studies, 26,* 437–451. http://dx.doi.org/10.1007/s10826-016-0569-4

Larzelere, R. E. (1996). *Inter-coder reliabilities and construct groupings for some important codes on the Daily Incident Report.* Boys Town, NE: Boys Town Press.

Leenarts, L. E., Vermeiren, R. R., van de Ven, P. M., Lodewijks, H. P., Doreleijers, T. A., & Lindauer, R. J. (2013). Relationships between interpersonal trauma, symptoms of posttraumatic stress disorder, and other mental health problems in girls in compulsory residential care. *Journal of Traumatic Stress, 26,* 526–529.

Lenz, A. S., & Hollenbaugh, K. M. (2015). Meta-analysis of trauma-focused cognitive behavioral therapy for treating PTSD and co-occurring depression among children and adolescents. *Counseling Outcome Research and Evaluation, 6,* 18–32. http://dx.doi.org/10.1177/2150137815573790

Lochman, J. E., & Curry, J. F. (1986). Effects of social problem-solving training and self-instruction training with aggressive boys. *Journal of Clinical Child Psychology, 15,* 159–164. http://dx.doi.org/10.1207/s15374424jccp1502_8

Maag, J. W. (2006). Social skills training for students with emotional and behavioral disorders: A review of reviews. *Behavioral Disorders, 32,* 4–17. http://dx.doi.org/10.1177/019874290603200104

MacDonald, K., Thomas, M. L., Sciolla, A. F., Schneider, B., Pappas, K., Bleijenberg, G., . . . Wingenfeld, K. (2016). Minimization of childhood maltreatment is common and consequential: Results from a large, multinational sample using the Childhood Trauma Questionnaire. *PLoS ONE, 11*(1), e0146058. http://dx.doi.org/10.1371/journal.pone.0146058

Maddern, L. H., Cadogan, J. C., & Emerson, M. P. (2006). 'Outlook': A psychological service for children with a different appearance. *Clinical Child Psychology and Psychiatry, 11,* 431–443. http://dx.doi.org/10.1177/1359104506064987

Martin, A., Krieg, H., Esposito, F., Stubbe, D., & Cardona, L. (2008). Reduction of restraint and seclusion through collaborative problem solving: A five-year prospective inpatient study. *Psychiatric Services, 59,* 1406–1412. http://dx.doi.org/10.1176/ps.2008.59.12.1406

Mazza, J. J., Dexter-Mazza, E. T., Miller, A. L., Rathus, J. H., & Murphy, H. E. (2016). *DBT Skills in Schools: Social skills training for emotional problem solving for adolescents (DBT STEPS-A).* New York, NY: Guilford Press.

Mueser, K. T., & Taub, J. (2008). Trauma and PTSD among adolescents with severe emotional disorders involved in multiple service systems. *Psychiatric Services, 59,* 627–634. http://dx.doi.org/10.1176/ps.2008.59.6.627

Nezu, A. M., & Nezu, C. M. (2001). Problem solving therapy. *Journal of Psychotherapy Integration, 11,* 187–205. http://dx.doi.org/10.1023/A:1016653407338

Nezu, A. M., Nezu, C. M., & D'Zurilla, T. (2013). *Problem-solving therapy: A treatment manual.* New York, NY: Springer.

Nisenbaum, J. (2013). Residential services for youth impacted by family violence and trauma: Implications for child welfare policy and practices. *Journal of Family Violence, 28,* 751–752. http://dx.doi.org/10.1007/s10896-013-9540-y

Oflaz, F., Hatipoğlu, S., & Aydin, H. (2008). Effectiveness of psychoeducation intervention on post-traumatic stress disorder and coping styles of earthquake survivors. *Journal of Clinical Nursing, 17,* 677–687. http://dx.doi.org/10.1111/j.1365-2702.2007.02047.x

Osher, D., Bear, G. G., Sprague, J. R., & Doyle, W. (2010). How can we improve school discipline? *Educational Researcher, 39,* 48–58. http://dx.doi.org/10.3102/0013189X09357618

Pane Seifert, H. T., Farmer, E. M., Wagner, H. R., II, Maultsby, L. T., & Burns, B. J. (2015). Patterns of maltreatment and diagnosis across levels of care in group homes. *Child Abuse & Neglect, 42,* 72–83. http://dx.doi.org/10.1016/j.chiabu.2014.12.008

Patel, V., Chowdhary, N., Rahman, A., & Verdeli, H. (2011). Improving access to psychological treatments: Lessons from developing countries. *Behaviour Research and Therapy, 49,* 523–528. http://dx.doi.org/10.1016/j.brat.2011.06.012

Phillips, E. L., Phillips, E. A., Fixsen, D. L., & Wolf, M. M. (1974). *The teaching-family handbook.* Lawrence, KS: University of Kansas Press.

Pynoos, R., Rodriguez, N., Steinberg, A., Stuber, M., & Frederick, C. (1998). *The University of California at Los Angeles Posttraumatic Stress Disorder Reaction Index (UCLA-PTSD RI).* Los Angeles, CA: UCLA Trauma Psychiatry Program.

Raj, M. A. J., Kumaraiah, V., & Bhide, A. V. (2001). Cognitive-behavioural intervention in deliberate self-harm. *Acta Psychiatrica Scandinavica, 104,* 340–345. http://dx.doi.org/10.1111/j.1600-0447.2001.00075.x

Raudenbush, S. W., & Bryk, A. S. (2002). *Hierarchical linear models: Applications and data analysis methods* (Rev. Ed.). Newbury Park, CA: Sage.

Rivard, J. C., Bloom, S. L., McCorkle, D., & Abramovitz, R. (2005). Preliminary results of a study examining the implementation and effects of a trauma recovery framework for youths in residential treatment. *Therapeutic Communities, 26,* 83–96.

Rosner, R., König, H.-H., Neuner, F., Schmidt, U., & Steil, R. (2014). Developmentally adapted cognitive processing therapy for adolescents and young adults with PTSD symptoms after physical and sexual abuse: Study protocol for a randomized controlled trial. *Trials, 15,* 195. http://dx.doi.org/10.1186/1745-6215-15-195

Ross, R. K. (2007). Beyond autism treatment: The application of applied behavior analysis in the treatment of emotional and psychological disorders. *International Journal of Behavioral Consultation and Therapy, 3,* 528–536. http://dx.doi.org/10.1037/h0100826

Sang, H., & Tan, D. (2018). Internalizing behavior disorders symptoms reduction by a social skills training program among Chinese students: A randomized controlled trial. *NeuroQuantology: An Interdisciplinary Journal of Neuroscience and Quantum Physics, 16,* 104–109. http://dx .doi.org/10.14704/nq.2018.16.5.1312

Scott, D. A., & Lorenc, L. (2007). A multi-tiered evaluation of adolescent therapeutic group homes. *Child & Youth Care Forum, 36,* 153–162. http://dx.doi.org/10.1007/s10566-007-9038-y

Sheridan, S. M., Hungelmann, A., & Maughan, D. P. (1999). A contextualized framework for social skills assessment, intervention, and generalization. *School Psychology Review, 28,* 84–103.

Skinner, B. F. (1953). *Science and human behavior.* New York: Macmillan.

Spence, S. H., Sheffield, J., & Donovan, C. (2002). Problem-solving orientation and attributional style: Moderators of the impact of negative life events on the development of depressive symptoms in adolescence? *Journal of Clinical Child and Adolescent Psychology, 31,* 219–229. http://dx.doi.org/10.1207/S15374424JCCP3102_07

Sukhodolsky, D. G., Kassinove, H., & Gorman, B. S. (2004). Cognitive-behavioral therapy for anger in children and adolescents: A meta-analysis. *Aggression and Violent Behavior, 9,* 247–269. http://dx.doi .org/10.1016/j.avb.2003.08.005

Takahashi, F., Koseki, S., & Shimada, H. (2009). Developmental trends in children's aggression and social problem-solving. *Journal of Applied Developmental Psychology, 30,* 265–272. http://dx.doi.org/10.1016/j .appdev.2008.12.007

Tenhula, W. N., Nezu, A. M., Nezu, C. M., Stewart, M. O., Miller, S. A., Steele, J., & Karlin, B. E. (2014). Moving forward: A problem-solving training program to foster veteran resilience. *Professional Psychology: Research and Practice, 45,* 416–424. http://dx.doi.org/10.1037/ a0037150

Thompson, R. W., & Daly, D. L. (2015). The Family Home Program: An adaptation of the Teaching Family Model at Boys Town. In J. K. Whittaker, J. F. del Valle, & L. Holmes (Eds.), *Therapeutic residential care with children and youth: Developing evidence-based international practice* (pp. 113–123). London, England: Kingsley.

Tierney, J., Green, E., & Dowd, T. (2016). *Teaching social skills to youth.* Boys Town, NE: Boys Town Press.

Trieschman, A., Whittaker, J., & Brentro, L. (1969). *The other 23 hours: Child-care work with emotionally disturbed children in a therapeutic milieu.* Oxford, England: Aldine.

Tyler, P. M., Mason, W. A., Chmelka, M. B., Patwardan, I., Coubertin, M., Pope, K., . . . Blair, R. J. (2019). Psychometrics of a brief trauma symptom screen for youth in residential care. *Journal of Traumatic Stress, 32,* 753–763. http://dx.doi.org/10.1002/jts.22442

Tyler, P. M., Patwardan, I., Ringle, J. L., Chmelka, M. B., & Mason, W. A. (2019). Youth needs at intake into trauma-informed group homes and response to services: An examination of trauma exposure, symptoms, and clinical impression. *American Journal of Community Psychology, 64,* 321–332. http://dx.doi.org/10.1002/ajcp.12364

Walker, K. L., Hirsch, J. K., Chang, E. C., & Jeglic, E. L. (2017). Non-suicidal self-injury and suicidal behavior in a diverse sample: The moderating role of social problem-solving ability. *International Journal of Mental Health and Addiction, 15,* 471–484. http://dx.doi.org/10.1007/ s11469-017-9755-x

Webster-Stratton, C., Reid, J., & Hammond, M. (2001). Social skills and problem-solving training for children with early-onset conduct problems: Who benefits? *Journal of Child Psychology and Psychiatry, 42,* 943–952. http://dx.doi.org/10.1111/1469-7610.00790

Weierich, M. R., & Nock, M. K. (2008). Posttraumatic stress symptoms mediate the relation between childhood sexual abuse and nonsuicidal self-injury. *Journal of Consulting and Clinical Psychology, 76,* 39–44. http://dx.doi.org/10.1037/0022-006X.76.1.39

Weller, J. A., Leve, L. D., Kim, H. K., Bhimji, J., & Fisher, P. A. (2015). Plasticity of risky decision making among maltreated adolescents: Evidence from a randomized controlled trial. *Development and Psychopathology, 27,* 535–551. http://dx.doi.org/10.1017/S0954579415000140

Wherry, J. N., Baldwin, S., Junco, K., & Floyd, B. (2013). Suicidal thoughts/behaviors in sexually abused children. *Journal of Child Sexual Abuse, 22,* 534–551. http://dx.doi.org/10.1080/10538712.2013.800938

Williams, N. R., Lindsey, E. W., Kurtz, P. D., & Jarvis, S. (2001). From trauma to resiliency: Lessons from former runaway and homeless youth. *Journal of Youth Studies, 4,* 233–253. http://dx.doi.org/10.1080/ 13676260123589

Yoon, S., Steigerwald, S., Holmes, M. R., & Perzynski, A. T. (2016). Children's exposure to violence: The underlying effect of posttraumatic stress symptoms on behavior problems. *Journal of Traumatic Stress, 29,* 72–79. http://dx.doi.org/10.1002/jts.22063

Zelechoski, A. D., Sharma, R., Beserra, K., Miguel, J. L., DeMarco, M., & Spinazzola, J. (2013). Traumatized youth in residential treatment settings: Prevalence, clinical presentation, treatment and policy implications. *Journal of Family Violence, 28,* 639–652. http://dx.doi.org/10 .1007/s10896-013-9534-9

E-Mail Notification of Your Latest Issue Online!

Would you like to know when the next issue of your favorite APA journal will be available online? This service is now available to you. Sign up at https://my.apa.org/portal/alerts/ and you will be notified by e-mail when issues of interest to you become available!