

RESEARCH ARTICLE

Child-centered play therapy and adverse childhood experiences: A randomized controlled trial

Dee C. Ray¹  | Elizabeth Burgin² | Daniel Gutierrez²  | Peggy Ceballos¹ | Natalya Lindo¹

¹ Department of Counseling and Higher Education, University of North Texas, Denton, Texas, USA

² School Psychology and Counselor Education, William & Mary, Williamsburg, VA, US

Correspondence

Dee C. Ray, Department of Counseling and Higher Education, University of North Texas, 1155 Union Circle, Box 310829, Denton, TX 76203, USA.
Email: dee.ray@unt.edu

Abstract

There is a preponderance of evidence that adverse childhood experiences (ACEs) result in harmful physical, learning, social, emotional, and behavioral health outcomes during childhood, with far reaching effects lasting across the lifespan. The cumulative effect of childhood adversity and its relationship to childhood trauma represent an urgent call to action among stakeholders, yet treatment studies are rare. The purpose of this randomized controlled trial was to explore the impact of child-centered play therapy (CCPT) among children with two or more ACEs on improvement of social and emotional assets and behavioral problems. Results of a repeated measures linear mixed model demonstrated statistically significant increases in social-emotional competencies including empathy, social competence, and self-regulation/responsibility and decreases in total behavior problems among children who participated in CCPT. Results of this study support the effectiveness of CCPT among children who have experienced ACEs and at risk for complex trauma.

KEYWORDS

adverse childhood experiences, trauma, play therapy, children, child-centered play therapy

Adverse Childhood Experiences (ACEs) represent childhood exposures to traumatic events which are cumulatively implicated in the development of chronic physical and mental health problems (Felitti et al., 1998). Felitti et al. (1998) originally identified ACEs that comprised abuse (i.e., psychological, physical, and sexual abuse) and household dysfunction (i.e., exposure to substance use, mental illness, violent treatment of a maternal figure, and criminal behavior in the household). Felitti et al. (1998) found that 64% of over 17,000 participants in their large-scale ACE study experienced at least one ACE and 54% experienced more than one. Using data from Felitti et al.'s initial study, Anda et al. (2006) found a dose-response relationship whereby the higher the ACEs score reported by adult participants, the increase in risk for every health outcome, including affective, somatic, substance abuse, memory, sexual, and aggression-related domains. Conclusions that continue to be supported in recent literature (Hughes et al., 2017; Petruccelli et al., 2019) indicate that the more adverse experiences reported in childhood, the more dire the consequences on physical and mental health in both childhood and adulthood. Due to the serious nature of nega-

tive outcomes related to ACEs, intervention during childhood is warranted in order to mitigate a harmful developmental trajectory for children. Child-centered play therapy (CCPT) is one intervention that has demonstrated effectiveness in the improvement of emotional, social, and behavioral outcomes (Lin & Bratton, 2015) yet has not been explored as intervention for children at-risk for trauma due to exposures to cumulative ACEs.

ACEs and childhood health outcomes

The relationship between ACEs and health risk behaviors, chronic illness, and disease related to leading causes of mortality among adults was initially established by Felitti et al. (1998) and further confirmed in subsequent studies. In a bleak conclusion regarding ACEs, Brown et al. (2009) found that individuals with six or more ACEs died, on average, 20 years earlier compared to individuals who had not experienced ACEs. Although initial research on ACEs focused on adult report of childhood events, more recent literature provides a

description of outcomes during childhood. Early research on ACEs in childhood indicated that children who experienced four or more ACEs were found to be more likely to experience learning and behavior problems, compared to peers who did not have a history of ACEs (Burke et al., 2011). However, more recent research has revealed substantial deleterious cumulative effects in outcomes related to emotional regulation and trauma symptoms with two or more reported ACEs (Thurston et al., 2018; Turner et al., 2020). In early childhood, higher ACE scores are associated with higher rates of mental health concerns, illness, and socialization problems, specifically diagnoses of ADHD, depression, mood disorders, developmental delays, and other behavioral disorders (Kerker et al., 2015; Koball et al., 2020; Zhang & Mersky, 2020). For each ACE, there was a 32% increase in likelihood of having a clinical behavioral problem score, 21% increase in likelihood of a medical condition, and 77% increase in likelihood of lower social skills (Kerker et al., 2015).

School-related problems are also highly correlated with increased numbers of reported ACEs in early childhood. Zeng et al. (2019) found that the odds ratio of preschoolers being suspended increased by 80% for every ACE while Jimenez et al. (2016) concluded that children who experienced ACEs in their first 5 years of life were more likely to experience poor academic and behavioral outcomes in kindergarten. Specifically, an increased ACE score is correlated with lack of attendance, academic failure, and behavioral problems in school (Blodgett & Lanigan, 2018). Substantial evidence supports the conclusion that children who experience ACEs are likely to demonstrate poorer outcomes across medical, home, and school settings.

Although correlational research on ACEs leans toward the measurement and relationship to physical, emotional, and behavioral deficits, researchers have highlighted the role of childhood social and emotional competencies in order to mediate the effects of ACEs (Bethell et al., 2017; Luecken et al., 2013). Ray et al. (2020) found that the number of reported ACEs was strongly predictive of both childhood behavioral problems and decreased social-emotional competencies. Social-emotional skills such as empathy, self-regulation, and social skills are components of overall childhood wellness (Merrell, 2011). Furthermore, emotional awareness and regulation is related to positive social behaviors and relationships while inadequate social emotional skills are likely to lead to functional impairment for adults (Whitcomb, 2018). A child's ability to navigate through adverse experiences outside of their control is likely to be strengthened by competencies in regulating emotions, empathizing with others, and building supportive relationships (Ray et al., 2020).

ACEs, children, and diversity

ACEs are a prevalent concern in the US population, across diverse groups (Felitti et al., 1998; Merrick et al., 2018). It appears that while no social group is untouched by the

impact of ACEs, marginalized groups may be at higher risk for exposure, particularly to community-level adversity (Merrick et al., 2018; Thurston et al., 2018). Community-level adversity includes acts of racism, discrimination, and violence within a child's neighborhood or community. The initial Felitti et al. (1998) study was conducted with a mostly white and educated sample of participants and focused on interpersonal adverse experiences. Subsequently, researchers have added community-level stressors to studies on ACEs in an attempt to capture adversities experienced by the broader population, including racial and ethnic prejudice, neighborhood violence, bullying, foster care, adoption, and natural disasters (Cronholm et al., 2015). Subsequent studies explored ACEs within populations who identify as racial or ethnic minorities (Burke et al., 2011; Finkelhor et al., 2013; Hunt et al., 2017; Thurston et al., 2018); have less than a high school diploma (Burke et al., 2011; Merrick et al., 2018), and have low socioeconomic status (Burke et al., 2011; Merrick et al., 2018).

Merrick et al. (2018) investigated the prevalence of ACEs across demographic variables and found that participants in several socioeconomic categories reported a significantly higher degree of exposure to ACEs compared to their white, high-school educated, higher-income bracket counterparts. In particular, participants who identified as Black, Hispanic, multiracial, gay, lesbian, bisexual, with less than a high school education, who earned less than \$15,000 annually, or were unemployed were more likely to report ACEs. Consistent with Merrick et al. (2018), Thurston et al. (2018) found that ACEs exposure occurred at higher rates among racial and ethnic minorities, and that community-level stressors were represented at a higher rate among non-white individuals. Specifically, researchers reported more than twice as many Black, non-Hispanic children witnessed violence, compared to white, non-Hispanic counterparts. Additionally, Thurston et al. found that there was an inverse relationship between the number of ACEs reported for each child and their emotional regulation capacity. Most notably, researchers found that among the community-level variables tested, experiencing racial or ethnic prejudice demonstrated the strongest effect on emotional regulation. Childhood poverty also appears to be highly correlated with ACEs as children in impoverished rural areas report higher numbers of ACEs compared to urban peers (Crouch et al., 2020) and children in Title 1 schools (i.e., schools that have higher number of students who receive free or reduced lunch) report significantly more ACEs than non-Title 1 schools (Blodgett & Lanigan, 2018).

ACEs and trauma

ACEs literature often uses the terms ACEs, trauma, complex trauma, toxic stress, and maltreatment interchangeably (Hays-Grudo & Morris, 2020; Petruccioli et al., 2019; Waite & Ryan, 2020) which can lead to confusion regarding understanding and treatment related to ACEs. Although ACEs do not necessarily indicate that a child has experienced events

as traumatic or demonstrated trauma symptoms, research is clear that such childhood experiences are more likely to be experienced as traumatic. The experiences of abuse, household dysfunction, and community-level stressors defined as ACEs represent traumatic exposure (Cronholm et al., 2015; Felitti et al., 1998). In providing evidence of the association between ACEs and trauma, Turner et al. (2020) found that children between the ages of 2 and 9 years old were 7.8 times more likely to be designated in the high trauma level if they were in the high ACEs group (i.e., two or more ACEs). In finding that exposure to cumulative adversity and types of adversity predicted trauma-related stress in children, Racine et al. (2020) noted that pervasive adversity is synonymous with complex trauma. Spinazzola et al. (2018) concluded that intentional acts of harm that threaten children or their primary support systems are experienced as interpersonal or complex trauma. Complex trauma is defined as “child maltreatment, domestic violence, and other forms of early interpersonal trauma that disrupt primary attachments with caregivers, which increases the risk for developing a constellation of difficulties” (Cohen et al., 2012, p. 528). Cook et al. (2005) conceptualized that complex trauma results in the loss of a child’s core capacity for self-regulation and may impact domains of attachment, biology, affect regulation, dissociation, behavioral regulation, cognition, and self-concept (Cook et al., 2005).

Exposure to adverse experiences may be deleterious to typical development by re-programming stress response systems and neurodevelopmental processes (Finkelhor, 2020) that eventually lead to behavioral, psychological, and health problems. Using trauma models, researchers have linked ACEs to the body’s response to stressful events whereby the child’s allostatic load (i.e., cumulative response to a threat) activates the body’s stress-response system for a prolonged period of time resulting in damaging changes to endocrine, immunological, and a myriad of other biological systems (Hays-Grudo & Morris, 2020; Waite & Ryan, 2020). Lund et al. (2020) found that exposure to ACEs increased the risk for harmful actions and behaviors typically executed by the prefrontal cortex, hypothesizing that brain development may be highly influenced by greater number of ACEs. Yet, Blodgett and Lanigan (2018) proposed that development of trauma symptoms does not have to be an inevitable conclusion for children who have experienced ACEs because protective factors which include safe and nurturing relationships as well as family and community supports can mitigate risk. While the plasticity of the brain during early childhood increases children’s vulnerability to adversities, the same plasticity provides an opportunity for effective treatment (Koita et al., 2018).

ACEs and childhood treatment

Since publication of the original ACEs study (Felitti et al., 1998), research and discussion on the identification and impact of ACEs has been prolific. In Struck et al.’s (2021)

review of literature, they found 789 articles across 351 journal outlets published between 1998, the year of ACEs introduction into the literature, and 2018, with substantial increases in publication in most recent years (2015–2018). Research among child populations regarding ACEs is more recent with an increase in studies beginning in 2009, yet research among adult populations remains the majority of publications. In a recent PsycInfo database search conducted by the current authors using the Boolean phrase “Adverse Childhood Experiences” specified within the 2018–2020 timeframe, results yielded 1161 publications. Findings from the large number of published studies have provided a rich description of outcomes, comorbidities, epidemiology, and identification of ACEs (Struck et al., 2021), yet treatment studies are still rare. Struck et al. found that only 10% of published ACEs studies were related to treatment with most of those focused on adult populations. In their search of ACEs research on child health outcomes, Marie-Mitchell and Kostolansky (2019) found only 20 randomized controlled trials (RCTs) published between 1990 and 2017. Of the 20 RCTs, only six included a mental health treatment component, with three providing home visit family services, one providing counseling intervention to mothers, one parenting intervention resulting in non-statistically significant outcomes at end of intervention and statistically significant outcomes for mothers in treatment group at follow-up, and one parenting intervention resulting in non-statistically significant results. Marie-Mitchell and Kostolansky identified no studies with a mental health component in which intervention was directly provided to children.

Of particular concern, Zyromski et al. (2020) found that among 9120 articles published in American Counseling Association and American School Counselor Association-related journals across 1998 to 2018, only three specifically used the term “adverse childhood experiences” in the title or abstract. Although counseling literature addresses specific individual ACEs (e.g., childhood sexual abuse, domestic violence, bullying), the lack of literature conceptualizing ACEs as a unified construct in counseling publications possibly indicates that the profession of counseling may be unfamiliar with the trends and implications regarding ACEs. Zyromski et al. called for counselors to conduct research to explicitly connect ACEs to counseling-related outcomes.

Child-centered play therapy and ACEs

CCPT is a developmentally responsive, play-based mental health intervention for young children ages 3 to 10 who are experiencing social, emotional, behavioral and relational disorders (Landreth, 2012; Ray, 2011). CCPT utilizes play, the natural language of children, and therapeutic relationship to provide a safe, consistent therapeutic environment in which a child can experience full acceptance, empathy, and understanding from the counselor and process inner experiences and feelings through play and symbols. In CCPT, a child’s experience within the counseling relationship is the factor

that is most healing and meaningful in creating lasting, positive change. Based on person-centered principles (Rogers, 1951), the overarching goal of CCPT is to unleash the child's potential to move toward integration and self-enhancing ways of being. As in person-centered counseling, the counselor attitudinal conditions (i.e., genuineness, unconditional positive regard, and empathic understanding) inform the child-centered play therapist's role and functions, and honors the therapeutic relationship as the catalyst for client change. As children are provided an environment characterized by safety, acceptance, and therefore freedom to explore self, they are empowered to build self-concept, personal responsibility, self-direction, self-acceptance, decision-making skills, sense of control, self-reliance, coping awareness and skills, internal source of evaluation, and trust (Landreth, 2012). CCPT is predicated on acceptance of the whole child, prizing of uniqueness, and sensitivity to the child's world, with understanding of the child's wants, needs, and feelings. CCPT is operationalized through verbal and non-verbal responses by which counselors send the healing messages of "I am here. I hear you. I understand. I care" (Landreth, 2012, p. 209–210) using the medium of play.

CCPT is well-supported by an extensive body of research literature that supports the intervention as effective for disruptive behaviors (Bratton et al., 2013; Cochran & Cochran, 2017; Ray et al., 2007; Ritzi et al., 2017; Wilson & Ray, 2018), anxiety (Stulmaker & Ray, 2015), autism spectrum disorder problem behaviors (Schottelkorb et al., 2020), social-emotional assets (Blalock et al., 2019; Taylor & Ray, 2021), and overall impairment (Ray et al., 2013). In a meta-analysis of 52 CCPT controlled outcome research studies, Lin and Bratton (2015) reported that children who received CCPT showed statistically significant improved outcomes across myriad presenting issues with highest effects for behavioral problems, self-esteem, and caregiver-child relationship stress. More specifically related to the current study, CCPT outcome research has resulted in positive findings for children who have experienced events that are considered ACEs such as refugee trauma (Schottelkorb et al., 2012), domestic violence (Kot et al., 1998), and natural disaster (Shen, 2002). Two quasi-experimental studies have offered promising findings for children who were identified with ACEs (Haas & Ray, 2020; Patterson et al., 2018), yet no studies to date have employed a randomized controlled design to determine the effectiveness of CCPT with children who have experienced multiple ACEs.

CCPT appears to be particularly well-suited as an intervention for children with ACEs due to focus on the child's phenomenological perception of real-life adversities. In CCPT, the child leads the direction of content explored in play therapy, allowing the counselor to address and facilitate the child's perceived barriers to growth and coping skills. Rather than focus on the child's deficits or problems, CCPT involves the building of encouragement, self-regulation, and self-concept in order to enhance the child's ability to develop resiliency for the purposes of coping with external circumstances beyond their control. CCPT counselors consider a

child's "symptoms" related to ACEs as normal responses to abnormal and adverse events. In order to thrive in the face of adversity, a child who has experienced multiple ACEs will need particularly strong coping skills, which are typically built through nurturing relationships. Researchers have noted that children with ACEs appear to struggle with self-regulation, social skills, and relational impairment (Blodgett & Lanigan, 2018; Spinazzola et al., 2018). ACEs literature is in consensus that effective intervention includes a primary focus on relationship, self-regulation, and social skills (Hays-Grudo & Morris, 2020; Racine et al., 2020; Waite & Ryan, 2020). CCPT research literature provides historical evidence that CCPT is effective in the building of positive relationships, social skills, and self-regulation, thereby supporting rationale for the match between CCPT and intervention for children who have experienced ACEs.

Purpose of the study

We sought to examine the impact of CCPT with young children who have a history of ACEs, with attention to using a strength-based approach for strength-based outcomes. Given the substantial and chronic conditions associated with ACEs, intervention aimed at the reduction of behavioral problems of children who have experienced adversity is merited. Perhaps more importantly, intervention aimed at building social and emotional competencies seems particularly salient for children who have experienced ACEs as trauma or complex trauma. Strong social and emotional skills and attitudes serve as protective factors for lives of children who have faced interpersonal and community adversity (Hays-Grudo & Morris, 2020; Racine et al., 2020). The purpose of this study was to explore the impact of CCPT with children who have experienced two or more ACEs on the fostering of social and emotional assets and decrease of demonstrated behavioral problems.

METHOD

Participants

Over a 3-year period, we recruited children through five elementary schools in the Southwest United States. All five elementary schools were designated Title 1 schools (i.e., a minimum of 40% of attending students must qualify for free or reduced lunch). For inclusion in the study, participants needed to be enrolled in Kindergarten through third grade at one of the recruiting schools and a caregiver reported a minimum of two ACEs. Participants were referred by parents, teachers, or school administrators as needing services. Participants were excluded if they were receiving mental health treatment outside of the study or if they reported an immediate and urgent need for treatment (i.e., would be harmed by being placed in a waitlist control group). Figure 1 shows the flow of participants through the study. We assessed 195 children for eligibility resulting in 120 participants

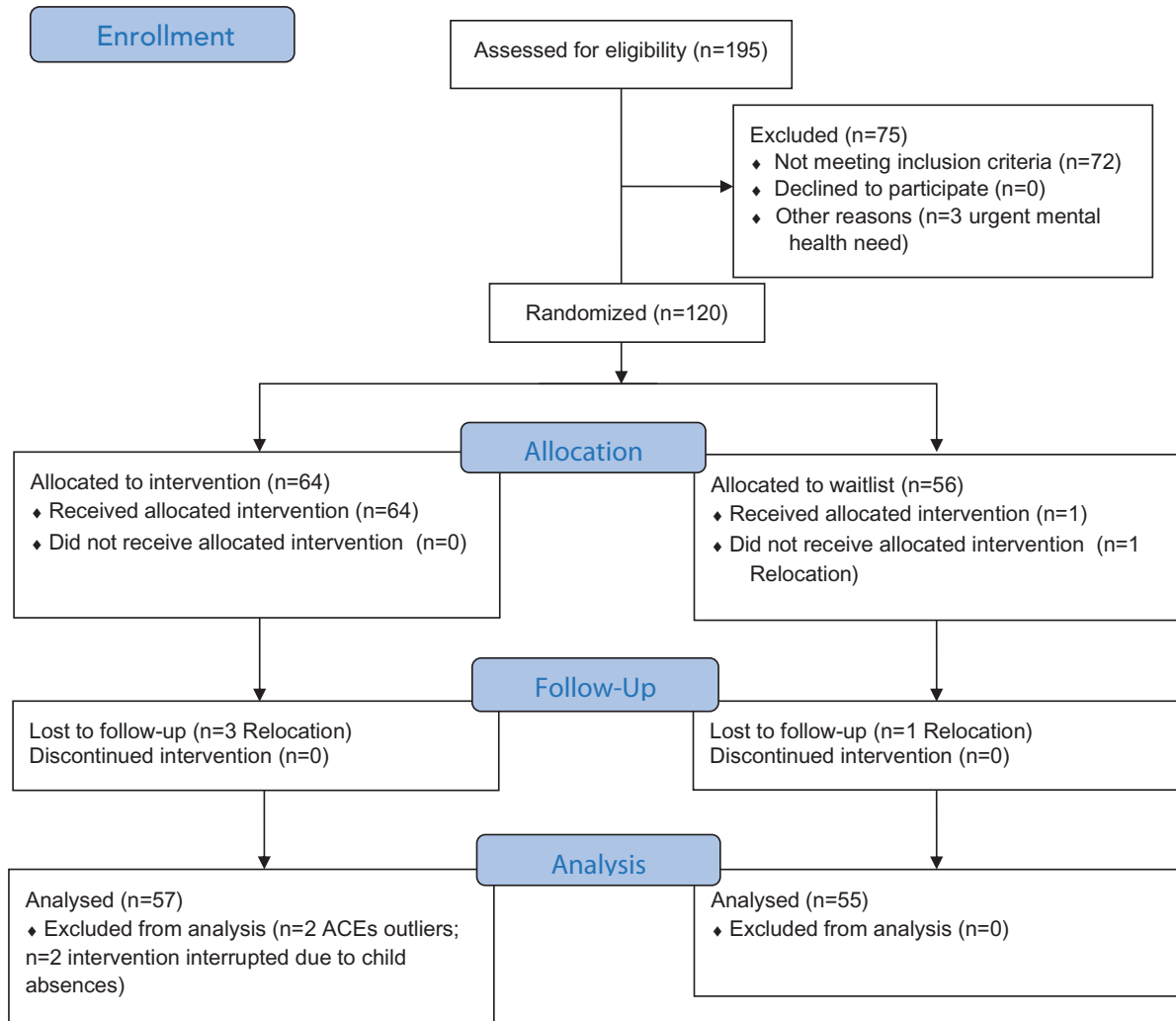


FIGURE 1 Flow of participants

meeting criteria. We received incomplete data from 8 participants resulting in 112 participants for the final analysis.

Participants were 29 girls and 91 boys aged 5–9 years old ($M = 6.34$; $SD = 1.14$). Of participants, 28 (23.3%) identified as African-American, 1 as Asian (.8%), 24 as Latino (20.0%), 19 (15.8%) as multiracial, and 48 (40.0%) as White. Reported ACEs ranged between 2 and 12 with a mean ACEs score of 4.20 ($SD = 2.33$). A power analysis conducted using the General Linear Mixed Model Power and Sample Size tool (GLIMMPSE; Kreidler et al., 2013) indicated an N of 120 would achieve power at 0.99 which is sufficient for the analysis.

Instrumentation

Adverse childhood experiences questionnaire—expanded

We designed the 25-item ACEs Questionnaire—Expanded (ACE-E) for this study to assess experience of events pro-

posed in the original 10-item Felitti et al. (1998) checklist and expanded the items to include additional experiences identified in recent literature that adversely impact functionality (Anthony et al., 2019; Cronholm et al., 2015; Finkelhor et al., 2015; Wade et al., 2016). Original items included physical abuse and neglect, sexual abuse, emotional abuse and neglect, divorce/separation, as well as substance abuse, mental health problems, domestic violence, and imprisonment of a primary caretaker. Expanded items were added from the existing literature (Anthony et al., 2019; Cronholm et al., 2015; Finkelhor et al., 2015; Wade et al., 2016) and included items related to experiencing racism/prejudice, bullying, foster care, adoption, natural disaster, living in unsafe neighborhood, parental suicidality, food insecurity, and witnessing violence. Both Cronholm et al. and Wade et al. concluded that expansion of items allowed for identification of children who experience significant adversity in home and community settings that correlates with impairment. Additionally, even though studies used different checklist versions of exploring the use of expanded ACEs (Thurston et al., 2018; Wade et al., 2016), researchers found that additional adverse

events are consistently correlated with serious negative outcomes supporting findings that 2–4 or more reported ACEs, whether expanded or traditional, are linked to negative physical and emotional/behavioral outcomes. Because the original ACEs Questionnaire was designed for adult self-report, we also modified wording of the items to allow parents to answer items about their children (e.g., instead of “Did you live with anyone who was a problem drinker...”, we modified to “Has your child ever lived with anyone who was a problem drinker...”).

Procedures in the current study for administering ACE-E included that (1) the research team must make personal contact with the parent; (2) explain the sensitive nature of the items that will be asked; (3) explain limits of confidentiality if some items were answered in the affirmative (i.e., abuse reporting procedures); and (4) check in with the parent regarding their reaction to being asked sensitive questions following administration. For parents who spoke Spanish as their first language, the ACE-E was administered by a research team member in Spanish. Response options were dichotomized (Yes = 1; No = 2).

Social emotional assets and resilience scales—parent

The Social Emotional Assets and Resilience Scales—Parent (SEARS-P) is a strength-based instrument developed to assess the social-emotional competencies of children and adolescents from 5 to 18 years old based on parent report (Merrell, 2011). The SEARS-P consists of 32 items, uses a 4-point response format (i.e., never, sometimes, often, always), and focuses specifically on home and community contexts (Merrell, 2011). The SEARS-P reflects parents’ perceptions of their children’s social-emotional competencies across three domains including Self-Regulation/Responsibility, which includes interpersonal insight and the ability to accept responsibility and think before acting; Social Competence, which includes the ability to maintain peer relationships and utilize effective verbal communication; and Empathy, which includes the ability to understand and relate to other’s feelings and experiences (Merrell, 2011). Merrell reported strong reliability Cronbach alpha coefficients of .96 for the Total score of the SEARS-P, .95 for the subscale of Self-Regulation/Responsibility, .89 for Social Competence, and .87 for Empathy. Test-retest reliability was reported as .93 for total score and the subscale scores ranged from .88 to .92. Convergent and construct validity for the SEARS-P are considered robust (Merrell et al., 2011). Children’s scores that fall in the 6 to 20% percentile are considered to be at-risk of low social emotional competencies and are considered at high risk with scores that fall in the 5th percentile or below. For the current sample, the Cronbach’s alpha was .95, which indicates a high level of internal consistency.

Direct observation form

The *direct observation form* (DOF; McConaughy & Achenbach, 2009) is a standardized rating observation tool to evaluate children’s observed behavior, affect, and interpersonal interactions at school for children between the ages of 5 and 14 (Dowdy et al., 2013, McConaughy & Achenbach, 2009). The DOF is rated in school settings by trained, objective observers for 10-minute increments. Following each observation, the observer responds to an 89-item rating scale regarding the cognitive, social, emotional, and behavioral conduct the child demonstrated during the observation period. Observations were rated on a scale of 0 (not observed) to three (definite occurrence with severe intensity or occurrence lasting more than 3-minutes in duration).

McConaughy & Achenbach (2009) reported a Cronbach’s alpha of .87 for Total Problems composite score. Content validity of the DOF was established by Achenbach and Rescorla (2001), given significant discrimination between referred children from demographically similar children who were not referred. The DOF syndrome scales demonstrate criterion validity, as they were developed based on empirically supported groupings of children’s behavioral and emotional problems (McConaughy & Achenbach, 2009). Further, demographic variables of gender and ethnicity showed small effects on items scores related to criterion validity (McConaughy & Achenbach, 2009). For the current sample, the Cronbach’s alpha was .92, which indicates a high level of internal consistency. Administration procedures for the DOF are included in the procedures.

Five research team members served as objective raters for the DOF. Raters were four doctoral students who had completed a master’s in counseling and one master’s student in the last semester of a master’s program. In preparation for data collection, the observers were trained in assessment observation protocol and conducted observations over a 2-week period to establish interrater reliability. Raters conducted 30 simultaneous but random independent observations of children in a school setting; scoring discrepancies were documented and refined in team meetings at regular intervals until they reached a reasonable level of interrater reliability, with .95 coefficient.

Procedures

Upon human subjects approval, we sought referrals from parents, teachers, school counselors, and school administrators for children identified as having ACEs or who were demonstrating behavioral problems that may possibly be related to ACEs. Procedures for the proposed study took place in the context of a larger research study on the use of CCPT with children who demonstrated academic or behavioral problems in school. Confidential envelopes were provided to each child’s guardians, containing informed consent and SEARS-P form. Upon receipt of the informed consent and SEARS-P,

research team members met with each child participant to attain assent. The *DOF* observers were then assigned study participants for three 10-minute periods at different times of the school day during classroom instruction times in a two to four-day period, per the *DOF* manual (McConaughy & Achenbach, 2009). Raters were blind to group assignment. Teachers were notified that classroom observations would take place for children referred to the study and observers conducted observations unobtrusively in each classroom without notification to child participants. Pretest observations were completed within 2 weeks prior to the beginning of CCPT treatment and posttest observations were completed within 2 weeks of the completion of treatment. Additionally, upon receipt of parent informed consent, research team members contacted parents by phone to explain the ACE-E and verbally ask for responses to ACE-E items.

In accordance with randomized controlled trial procedures, children who met criteria for participation were randomly assigned to the experimental CCPT group or the waitlist control group. We utilized block randomization for group assignment within each school and electronic randomization software to determine group assignment for the child participants. As a result of random assignment software, 56 participants were assigned to the CCPT treatment group and 55 were assigned to the waitlist control group. Participants assigned to the treatment group were scheduled for CCPT within 2 weeks of assignment. Following completion of 16 play therapy sessions, or the 8-week experimental period, confidential envelopes were provided to guardians containing the *SEARS-P*, to be completed by the same parent who completed pre-data assessment. Upon completion of data collection, children in the waitlist control group were assigned to individual or group CCPT for 16 sessions.

Treatment protocol

Participants assigned to the experimental treatment group participated in two 30-minute CCPT sessions per week for a total of 8 weeks, resulting in a total of 16 sessions. Although the intention was for each child to receive 16 sessions, school absences and scheduling issues resulted in participants receiving a range of 10–16 sessions with a mean of 15.84 ($SD = .84$) sessions and 95% of sample receiving all 16 sessions. CCPT sessions were conducted in each of the participating schools in a playroom following Landreth's (2012) guidelines including toys/materials that were selected to represent items from three categories: reality, creative, and aggressive.

CCPT sessions were conducted in accordance with Ray's (2011) CCPT treatment manual. Nonverbal components of CCPT include a body position which is forward, open, and follows the child; the play therapist's tone is congruent with child affect as well as verbal responses to the child (Ray, 2011). Verbal responses include tracking behavior, reflecting content, reflecting feeling, facilitating decision making, facilitating creativity, esteem building and encouraging, facilitating relationship, and limit setting.

Play therapists were doctoral level counselors who earned a master's degree in counseling or master's counseling students who were trained in CCPT, completed at least 3 graduate level courses in play therapy, and followed treatment protocol as specified by the CCPT Treatment Manual (Ray, 2011). Counselors included 20 females and one male who identified as African-American ($n = 1$), Multiracial ($n = 1$), Caucasian ($n = 13$), Asian ($n = 4$), and Latina ($n = 2$). Seventeen counselors were doctoral students in a CACREP-accredited counseling program specializing in play therapy and four were master's interns in a CACREP-accredited counseling program specializing in play therapy. All counselors participated in a two-hour training regarding clinical and procedural protocol in a school setting.

Supervision was provided for the counselors on a weekly basis, consistent with CCPT treatment protocol. Fidelity checks were conducted by a trained CCPT clinician using the Child Centered Play Therapy Research Integrity Checklist (Ray et al., 2017) with one randomly selected session video recording of each participant. For the current study, protocol adherence was calculated at 95%, indicating that 95% of all therapist responses fell within the treatment protocol.

Data analysis

Researchers employed a repeated measures linear mixed model using the PROC MIXED procedure in SAS 9.4 (Cary, NC) with the restricted maximum likelihood estimation method. We examined the interaction term between time and group to determine if the changes from pre-test to post-test were significantly different in the treatment group against the control. Participant's school was entered as a random effects variable to account for the hierarchical dependence in the data. Subsequently, we calculated the intraclass correlation (ICC) to determine the magnitude of the influence of school on the dependent variable, and when the ICC was over 0.10 school, we retained school in the model to control for the sources of unobserved variance. A non-significant Shapiro-Wilk's test indicated the data were normal, visual inspection of histograms and standardized scores indicated no extreme outliers, and only a limited presence of missing data which we outlined in the CONSORT flow diagram (see Figure 1). Comparison of the waitlist control group and the treatment group indicated no significant differences on baselines scores and demographics.

We utilized Cohen's d effect size calculations with pooled standard deviation to determine practical significance (Cohen, 1988). The categorization of small, medium, and large to note effect size are relative to the area of science (Cohen, 1988). An empirical investigation on effect size interpretation found that traditionally used guidelines for Cohen's d values overestimate medium and large effect sizes in the social science, and designated 0.15, 0.36, and 0.65 as small, medium, and large effects, respectively (Lovakov & Agadulina, 2021). We utilized these updated guidelines in our determination of the effects.

TABLE 1 Pretest and posttest mean scores for CCPT and waitlist control groups

| | | <u>Pre-treatment</u> | <u>Post-treatment</u> | <u>Test and between group effect size</u> |
|--------------------|--------------|----------------------|-----------------------|---|
| | | Mean(SD) | Mean(SD) | |
| Empathy | Intervention | 43.8 (10.38) | 47.7 (8.61) | $F = 5.25, df = 203, p < 0.03, d = 0.64$ |
| | Waitlist | 41.6 (10.72) | 41.8 (9.90) | |
| Self-regulation | Intervention | 38.3 (8.82) | 41.9 (8.66) | $F = 5.47, df = 193, p < .03, d = .71$ |
| | Waitlist | 35.8 (8.84) | 35.8 (8.30) | |
| Social competence | Intervention | 41.7 (10.95) | 44.5 (9.93) | $F = 6.84, df = 203, p < .001, d = .57$ |
| | Waitlist | 41.5 (10.08) | 38.9 (9.72) | |
| SEARS total | Intervention | 39.1 (9.74) | 42.8 (8.91) | $F = 8.36, df = 190, p < .001, d = .77$ |
| | Waitlist | 36.9 (9.52) | 36.1 (8.57) | |
| DOF–total problems | Intervention | 67.5 (16.71) | 59.8 (13.75) | $F = 5.44, df = 170, p < .03, d = .32$ |
| | Waitlist | 66.7 (15.15) | 63.9 (11.94) | |

RESULTS

We used linear mixed modeling to examine the effectiveness of the intervention on the social-emotional attributes of participants using the parent version of the SEARS-P (Merrell, 2011) and an assessment of behavior using the DOF (McConaughy & Achenbach, 2009) when compared to the waitlist control. We included time and group as fixed effects and School as a random effect to control for the hierarchical influence of school. The intraclass correlations for all the analysis ranged between .30 and .84 indicating a need to include school as a covariate. To best fit the repeated measures nested within the schools, we applied an unstructured covariance matrix. Table 1 provides the change in pre and post treatment mean scores indicating positive changes in the intervention group compared to the lack of change in the waitlist control (WL). As hypothesized, the Time Group interaction was significant for all subscales, including Empathy, $F = 5.25, df = 203, p < 0.03, d = 0.64$, Self-Regulation/Responsibility, $F = 5.47, df = 193, p < 0.03, d = 0.71$, Social Competence, $F = 6.84, df = 203, p < 0.001, d = 0.57$, and also the Total Score $F = 8.36, df = 190, p < 0.001, d = 0.77$. A review of Cohen's d effect sizes indicated moderate to large effects between the groups for scores on the total score and all subscales. We applied the same procedures to participant scores on the DOF. For the sake of efficiency and clarity, we focused our analysis on the *Total Problems scale*. Data analysis also resulted in a significant Time Group interaction, $F = 5.44, df = 170, p < 0.03, d = 0.32$, approaching a moderate effect size.

DISCUSSION

The current study represents the first randomized controlled trial testing the effectiveness of CCPT on the social/emotional strengths and problem behaviors of children who have experienced multiple ACEs, as well as one of the largest randomized controlled trials ever conducted on play therapy.

Although evidence is ample supporting the general effectiveness of CCPT (Lin & Bratton, 2015), there has been little research conducted with children who are at-risk for complex trauma and trauma-related symptoms, a clear outcome of children's experiences with multiple ACEs in the absence of intervention. The main findings from this study are that children who have experienced ACEs and participated in CCPT statistically significantly improved with practically clinical effects over waitlist counterparts in the building of empathy, self-regulation/responsibility, and social competence as components of overall social emotional assets. In addition, children with a background of multiple ACEs were observed to have significantly less behavioral problems after participation in CCPT as compared to the waitlist control group. Furthermore, results supporting the effectiveness of CCPT intervention were substantiated across multiple critical environments by both parent report and blind rater observation. Although there are a multitude of studies on intervention with single adverse experiences, such as sexual abuse, domestic violence, or bullying, there have been few studies exploring intervention focused on the construct of ACEs as placing children at-risk for trauma disorders (Marie-Mitchell & Kostolansky, 2019).

A salient finding from the current study is the effect of CCPT on the development of social-emotional assets for young children who have experienced ACEs. Consistent with previous literature on the relationship between ACEs and social-emotional competencies (Ray et al., 2020), the sample in this study who qualified for the study by reporting two or more ACEs were also reported by parents to be in the at-risk category for low social-emotional competencies with a mean score beyond one standard deviation below the normative sample mean. Following intervention, children in the CCPT group scored a mean within the average range, while children's scores in the waitlist control group remained unchanged. The same trend occurred for all subscales with the most striking result for the subscale of Self-Regulation/Responsibility wherein the CCPT group moved into the average range while the control group made

no change, staying almost two standard deviations below the average category.

ACEs literature is replete with caution regarding the correlation between multiple ACEs and difficulties with self-regulation in childhood and adulthood (Blodgett & Lanigan, 2018; Hughes et al., 2017; Lund et al., 2020; Zeng et al. 2019). Racine et al. (2020) proposed that interventions targeting emotional regulation skills are necessary to prevent severe trauma symptoms following adversity. In the current study, the most notable finding was the positive impact of CCPT on self-regulation indicating that CCPT may be a particularly viable intervention for children with ACEs. On the SEARS-P, the Self-Regulation scale measures "...self-awareness, metacognition, intrapersonal insight, self-management, direction, ability to accept responsibility, and ability to think before acting" (Merrell, 2011, p. 4). Theoretically, CCPT serves to offer children a relationship and setting in which the counselor facilitates expression of the child's world in order for children to develop understanding, self-acceptance, and strong self-concept while also working through effective coping skills. In a self-directed and relationally supportive process, a child learns to regulate themselves during exploration as they learn the power of choice comes with self-responsibility. For children who have experienced adverse events and trauma, events over which they have no control, CCPT offers an alternate relationship in which children experience themselves as in control and able to make self and other-enhancing decisions when given the opportunity. In essence, children are able to experience the natural self-actualizing tendency at work and learn to trust themselves in the process (Landreth, 2012; Ray, 2011), an experience that was taken from them during their adverse experiences.

In addition to our findings related to self-regulation, results indicated that children who participated in CCPT grew significantly in empathy and social competence when compared to children on the waitlist. Gains in empathy indicate that children were observed to have greater ability to understand and relate to others (Merrell, 2011) while children on the waitlist made virtually no improvement in this area. Interestingly, the waitlist showed the greatest decrease in social competence while children in CCPT showed substantial gains. This finding suggests that social skills of children with ACEs may deteriorate at a brisker pace without intervention, yet social skills are positively affected by relationship with a nurturing adult, such as in CCPT. The role of CCPT for children that have faced traumatic exposure may be to prevent the deterioration of their socioemotional competencies, thereby preventing more acute mental health outcomes in adulthood. Several ACEs researchers (Blodgett & Lanigan, 2018; Hays-Grudo & Morris, 2020; Racine et al., 2020) emphasized the need for nurturing relationships to mitigate the effects of traumatizing experiences. Relational synchrony that is provided in CCPT, such as matched affect, contingent responding, joint engagement, and physiological matching in heart rate, cortisol and brain activity (Hays-Grudo & Morris, 2020) is a hallmark of the CCPT relationship. Although emphasis in ACEs literature is typically concentrated on delivering intervention

to caregivers in order to build nurturing relationships, certainly a necessary component of working with children who have experienced ACEs, the current study offers hope for the delivery of a relational intervention directly to children that appears to positively impact the negative effects of ACEs.

The results of this study contribute to demonstrating the efficacy of CCPT among diverse children. In the schools where intervention took place, children were identified as 52.9–87.8% economically disadvantaged and 50.0%–66.6% at risk. Participants in the study included a statistically diverse sample of African American, Latino, multiracial, and white children, reflective of the racial, ethnic, and socioeconomic demographic factors within their overall student body populations. Barriers to mental health treatment are well documented among socially underrepresented and devalued groups (U.S. Department of Health and Human Services, 2001). The implementation of CCPT services in the schools may represent an effective way to address physical and structural barriers to mental health care for children marginalized at the intersection of race and poverty. Apart from issues of accessibility, culturally inclusive mental health practices encompass socioenvironmental factors, including cultural humility, sensitivity, empathy, knowledge, and guidance (Peters et al., 2020). In the current study, children across identity groups improved in total behavior, empathy, self-regulation/responsibility, and social competence, suggesting that within the guiding tenets and operationalization of CCPT, play therapists may be able to effectively implement culturally inclusive principles. CCPT verbal and non-verbal empathic understanding, "I am here. I hear you. I understand. I care" (Landreth, 2012, p. 209–210) may underpin the communication of cultural responsiveness to each child's worldview.

Limitations

Limitations of this study included the use of the ACE-E measure, a measure that used the original 10 ACEs questionnaire items (Felitti et al., 1998) plus additional items selected due to their use in previous literature. In a review of ACEs measures, Bethell et al. (2017) identified 14 different measures used in the ACEs literature and concluded that there has been no consensus on framework to evaluate measurement of ACEs. In our review of ACEs identification literature, we found the original items to be missing essential ACEs, specifically community-level adverse events. Based on ACEs research, we added the most common additional items identified in the literature, such as bullying, neighborhood violence, discrimination, natural disaster, adoption, and foster care (Bethell et al., 2017; Cronholm et al., 2015; Wade et al., 2016). However, there was no standardized expanded version of the ACEs questionnaire available for the current study. Another limitation related to the ACE-E measure was the reliance on parent report. Due to the sensitive nature of ACE-E items, parents may have not answered the questions honestly, especially after they were informed of child abuse reporting procedures.

Additionally, parents may not be aware of all ACEs experienced by their children. It is likely that ACEs were underreported for participants. As a research team, we discussed the sensitivity necessary in the administration of the ACE-E and developed procedures to help parents feel safe and more comfortable in their responses but we are uncertain to what degree we achieved this goal.

A final and notable limitation of this study was the overrepresentation of boys comprising 76% of the sample. CCPT literature commonly has an overrepresentation of boys (Ray et al., 2015) presumably due to the elevated identification of boys in elementary schools as exhibiting problem behaviors. With the focus of the current study on ACEs, we anticipated a more even number of girl and boys participants. Previous ACEs literature reports no difference in ACEs number between males and females (Blodgett & Lanigan, 2018; Kerker et al., 2015) or higher reported ACEs for females (Petrucci et al., 2019). Although our analysis did not indicate a difference in outcomes based on gender, we recognize the limitation of a sample comprised mostly of males. We theorize that because we conducted the study in a school environment, recruitment was influenced by the school's staff preference to refer students who exhibit more externalizing behavioral problems, most likely resulting in over-referral of boys.

Implications

The most obvious implication of the current study is that CCPT appears to be a practical and effective intervention for children who have experienced ACEs and at-risk for trauma disorder. The large sample composed of a representatively diverse sample of young children who have experienced multiple ACEs provides credible evidence that CCPT is a culturally inclusive intervention that can be delivered practically over 8 weeks. However, because the current study did not focus on the effectiveness of CCPT between cultural groups (i.e., race/ethnicity, poverty), future research exploring levels of effectiveness with varying populations is recommended.

CCPT acknowledgment of relationship as the therapeutic change agent for children appears to match the needs of children with ACEs. Our focus in the present study on building strengths for children of ACEs through the development of social emotional assets offers a unique contribution to ACEs intervention. We propose that counselors trained in CCPT can offer play therapy as an intervention to build coping skills for children who have experienced adversity and complex trauma. Additionally, CCPT counselors may also consider exploring the number and categories of ACEs for their clients at intake in order to assess the level of possible trauma exposure. Based on procedures employed in the current study, we recommend that counselors who assess for ACEs consider the need for sensitivity regarding the intrusive nature of ACEs questions for parents. We also highlight the limitations of using an ACEs questionnaire due to various unstandardized

versions available and lack of attention within current assessments to cumulative effects of single ACEs.

Future research would further the exploration of CCPT in the context of ACEs and trauma. We suggest an examination of the relationship between CCPT, ACEs, and trauma symptoms by adding a trauma measure such as the Trauma Symptom Checklist for Young Children (*TSCYC*; Briere, 2005) in the study of CCPT effectiveness. By exploring relationships between variables, the mediating influence of ACEs could be identified, allowing for clearer identification of children who would benefit the most from intervention. Although it was beyond the scope of the current study, we recommend exploring the relationship between cumulative effects of ACEs through measurement of repeated events and CCPT intervention. ACEs questionnaires typically only identify types of ACEs, thereby not accounting for complex trauma experienced through repeated acts of the same ACE. Capturing the frequency and repeated number of ACEs provides a better understanding of the intervention process with children who suffer from complex trauma. Finally, research involving the role of relational variables as mediators in intervention effectiveness is essential to enhanced insight for the facilitation of CCPT as a humanistic counseling intervention. Because authors of ACEs literature strongly advocate for nurturing relationships as the antidote to the effects of ACEs (Blodgett & Lanigan, 2018; Hays-Grudo & Morris, 2020; Racine et al., 2020) and because CCPT proposes relationship as the fundamental cornerstone of therapy (Landreth, 2012; Ray, 2011), we believe that further exploration of the therapeutic relationship will provide a deeper understanding of the therapy process with children who have experienced ACEs.

ORCID

Dee C. Ray  <https://orcid.org/0000-0002-2587-317X>

Daniel Gutierrez  <https://orcid.org/0000-0002-6102-8694>

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