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Chris Wilder
Ryan Holliman
Pedro Blanco
Department of Counseling, Tarleton State University

Author Note

Correspondence concerning this article should be addressed to Chris Wilder, Department of Counseling, Tarleton State University, 1400 College Drive, Waco, Texas, 76708 (e-mail: wilder@tarleton.edu).

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Abstract

There is a preponderance of evidence that childhood poverty is associated with several mental health disorders later in life including post-traumatic stress disorder, major depressive disorder, and anxiety disorders. In this study, we employed a single-case research design to investigate the impact of Child-Centered Play Therapy (CCPT) on preschool children who have experienced multigenerational poverty and are trauma-affected. Participants demonstrated improvement in interpersonal skills and exhibited fewer behavior and attention problems. Implications, limitations, and recommendations for further research are discussed.

***Keywords*:** child-centered play therapy, poverty, trauma

The socioeconomic class of a family is a significant predictor of a child's health, mental health, and educational outcomes (Aber et al., 2000; Ferguson et al., 2007; Gonzalez et al., 2020; Newland et al., 2019). Compounding the detrimental impacts of poverty is that low socioeconomic status presents a variety of barriers to accessing appropriate care, including cost, lack of information about cost-responsive options, distrust of healthcare professionals, lack of education, and difficulties with insurance (Ahmed et al., 2001; Lazar & Davenport, 2018). Children raised in environments with persistent toxic stress face many challenges that affect their current learning, future health, relationships, and employment prospects (Bettencourt et al., 2018; Curby et al., 2015; National Center for Children in Poverty, 2018). Furthermore, children raised in poverty are more likely to experience adverse childhood experiences (ACEs), and according to the Centers for Disease Control (CDC, 2021), ACEs can have long-lasting, harmful effects on overall well-being, health, education, and career opportunities.

Child-centered play therapy (CCPT) may be an appropriate intervention for children facing many poverty-related difficulties. CCPT is a developmentally responsive intervention that can address self-concept, self-responsibility, and self-coping (Landreth, 2023). Additionally, CCPT has demonstrated efficacy with a variety of mental health conditions that are prevalent in those experiencing poverty, including anxiety, depression, post-traumatic stress, and

educational difficulties (Blanco & Ray, 2011; Burgin & Ray, 2022; Delvecchio et al., 2019; Holliman et al., 2022; Parker et al., 2021; Schottelkorb & Doumas, 2012; Shen, 2002; Stulmaker & Ray, 2015). The present study will examine the impacts of Child-Centered Play Therapy on children experiencing poverty and trauma using a single case research design.

Literature Review

Impact of Poverty on Children

According to the U.S. Census Bureau (2021), approximately 11.4% of individuals in the U.S. experienced poverty during 2020, and 16.1% of children under 18 experienced poverty during the same time frame. There is a long and well-established history of poverty's impacts on children's emotional well-being (Brooks-Gunn et al., 2021; Evans & De France, 2021; McLeod & Shannahan, 1996; Yoshikawa et al., 2012). Capistrano et al. (2016) found that children who came from homes that met guidelines for poverty were more likely to have difficulty inhibiting emotional responses during emotionally laden tasks, which in turn led to greater internalizing symptoms such as depression and anxiety. A significant opportunity for emotional impairment arises when chronic stress is coupled with emotional disinhibition. Emotional disinhibition is defined by Huey (2020) as the expression of excessive emotions in a non-pro-social manner. Furthermore, in individuals without mental health conditions or chronic stress, we would typically assume that the behaviors would be stopped or "inhibited;" however, due to a constellation of issues, they are not inhibited in these individuals. Children growing up in poverty are more likely to experience delays in emotion regulation, which impacts learning and social problems, as children with emotion regulation delays have difficulty following directions and engaging in appropriate ways with others (Mathis & Bierman, 2015).

There is a corollary relationship between poverty and the emotional regulatory abilities of children (Mathis & Bierman, 2015). Studies using functional magnetic resonance imaging (MRI) of the brain found deficiencies in prefrontal cortex functioning of children in poverty (Liberzon et al., 2015). Emotional regulation assists in the ability to respond to various conditions using cognitive strategies in a developmentally appropriate manner. The diminished capacity to regulate emotion may lead to socially undesirable conditions such as anger management issues, joblessness, social connectedness issues, and poor mental health (Liberzon et al., 2015; Somerville & Whitebread, 2019). The brain and nervous system are capable of helping children manage temporary, acute stress. However, when the stressors become long-term and chronic, the system becomes overwhelmed, generating multiple challenges that impact learning (Boatwright & Midcalf, 2019), brain development, executive function, emotional regulation (McCall, 2018; Raver & Blair, 2016), health, and career outcomes (Bettencourt et al., 2018; Curby et al., 2015; National Center for Children in Poverty, 2018).

Poverty does not occur in isolation. Green et al. (2021) state that those experiencing poverty are frequently concentrated in specific neighborhoods, leading to large pockets of those struggling with inadequate economic resources. There are a variety of detrimental effects of living in a high-poverty neighborhood, including low social cohesion and lower degrees of actual and perceived safety, which in turn impact children's emotional well-being and ability to control behavior in settings like school (Kim et al., 2019). Childhood poverty is associated with several mental health disorders later in life for

children, including post-traumatic stress disorder, major depressive disorder, anxiety disorders, and schizophrenia (Douglas et al., 2021; Jeste et al., 2021; Nikulina, 2011; Phillips et al., 2005; Read, 2010; Ridley et al., 2020).

The impacts of childhood poverty do not limit themselves to the social-emotional domain. Najman et al. (2009) found that children exposed to poverty were more likely to experience decreases in cognitive functioning and academic achievement scores during adolescence. Furthermore, the research indicated that the chronicity of poverty had a more substantial impact on mental health than at what age this poverty occurred. In addition to general cognitive function, poverty has been associated with various specific learning disorders (Blair & Raver, 2014; Sharkins et al., 2017). Socioeconomic status is associated with reading difficulties (Duncan & Magnuson, 2012; Hair et al., 2015).

Furthermore, Becker et al. (2017) found that socioeconomic status (SES), combined with other environmental factors like maternal smoking, led to the genetic modulation of dyslexia symptoms, leading to increased reading difficulties. Rethemiotakia (2021) found that families with an income of less than $35,000 a year and who received insurance through Medicaid had two times the risk for developing learning disorders compared to peers in higher socioeconomic brackets. Schmidt et al. (2021) report the dire consequences of childhood poverty on education, stating that children who experienced childhood poverty consistently experienced decreased educational outcomes.

Externalizing behaviors like hyperactivity, aggression, opposition to authority, and inability to pay attention are often apparent before a child begins kindergarten. These behaviors can negatively impact early learning and may lead to future problems (Denham et al., 2014). In a longitudinal study, Brennan and colleagues found that aggression and hyperactive/inattentive behaviors at ages 2 and 3 were negatively associated with academic skills at ages 7.5 (2012). Untreated externalizing behaviors may last well into adulthood, resulting in chronic underachievement, poor peer relationships, weak social skills, substance abuse, and school dropout (Chen et al., 2011).

Some devastating outcomes of poverty include significant developmental impacts on the child's cognitive, emotional, and behavioral domain due to the inherent stressors of poverty, including cramped or unsafe housing, caregiver stress, and food insecurity (Johnson et al., 2016; Liberzon et al., 2015; Somerville & Whitebread, 2019) which contribute to childhood anxiety, depression, behavioral disorders, poor academic performance, and developmental delays (Baggerly, 2004; Jetelinaa et al., 2018; Mathis & Bierman, 2015). It is not unusual for preschool children to experience behavioral problems. Children exposed to persistent toxic stress such as racially segregated neighborhoods, frequent moving, and food insecurity can alter normal brain development, affecting attention, decision-making, and learning (Schmidt et al., 2021).

High levels of persistent hostile behaviors in preschoolers predicted long-term behavioral problems in adolescence and lasted into adulthood (Brennan et al., 2012). Preschoolers who do not learn to self-regulate their emotions enter the elementary school years facing multiple challenges. The outcomes for these children tend to be poor, and they are less likely to learn core skills needed for academic success in elementary school (Phipps & Post, 2020).

Fewer than 50% of children from disadvantaged backgrounds acquire the critical skills needed for academic achievement (Isaacs, 2012). Children raised in economically

underprivileged households are often exposed to excessive parent stress and adverse childhood experiences (ACEs), which further hinder attaining social-behavioral skills. Furthermore, children exposed to two or more ACEs are twice as likely to repeat a grade and more likely to be diagnosed with ADHD or other behavioral problems than children with no ACEs incidents (Bethel et al., 2014).

Exposure to prolonged ACEs can modify brain development and affect learning, attention, decision-making, planning, and stress response in children. The CDC reported that 1 in 6 children aged 2-8 were diagnosed with mental, behavioral, or developmental disorders (Cree et al., 2018; Raver & Blair, 2016). Furthermore, children from low-income families were more likely to be diagnosed with a mental disorder than children from higher-income families (Ridley et al., 2020). The day-to-day stress of living in and surviving poverty exerts an enormous physical and emotional toll on parents and children. The accumulation of stress and accompanying ACEs have a cumulative effect that slows down the neural connections that develop in the first five years of a child's life (Cree et al., 2018; Raver & Blair, 2016; van der Kolk, 2005).

Child-Centered Play Therapy

Based on the work of Virginia Axline (1947), Child-Centered Play Therapy (CCPT) is a non-directive model of play therapy utilized with children aged 3-11. In this approach it is believed that with the right conditions, children could resolve their issues through therapeutic play with limited instruction and supervision. The philosophical perspective of CCPT expresses confidence in the child's growth, development, and ability to heal through self-directed play. The play therapist emphasizes the quality of the therapeutic relationship and allows generous limits that permit the child to explore their inner world in healthier, positive, and respectful ways (Axline, 1947; Landreth, 2023). CCPT offers children free unrestricted play in a relational environment characterized by authenticity and acceptance (Axline, 1947; Bratton et al., 2005; Landreth, 2023). According to Landreth (2023), liberal limits offered within a solid therapeutic relationship structure allow children to make choices about their behavior. Landreth also identified detailed objectives for CCPT, including greater self-responsibility, self-direction, self-acceptance, and self-reliance.

Children naturally use play to express their feelings, experiences, and fears; play becomes the child's voice (Axline, 1947; Landreth, 2023; Ray, 2011). Axline (1947) offered the following eight fundamental principles for conducting play therapy:

1. The therapist must develop a warm, friendly relationship with the child.
2. The therapist accepts the child exactly as he/she is.
3. The therapist develops a feeling of permissiveness so that the child feels free to express feelings completely.
4. The therapist recognizes and reflects feelings (of a child) so that the child can gain insight into
his/her behaviors.
5. The therapist respects that the child can solve his/her problems and believes the
responsibility to change rests on the child.
6. The therapist does not attempt to direct the child but lets the child lead the way as the
therapist follows.
7. The therapist understands therapy is a gradual process and does not rush the child.
8. The therapist establishes only those limitations that are necessary to anchor the therapy to the real world and to facilitate the

child's awareness for his/her responsibility in the relationship. (pp. 73-74)

Child-Centered Play Therapy for Children in Poverty

Several investigations support the effectiveness of CCPT as a developmentally appropriate intervention for children who exhibit troublesome behaviors (Bratton et al., 2013; Cochran & Cochran, 2017; Lin & Bratton, 2015). Furthermore, research has supported the effectiveness of play therapy on performance anxiety, academic achievement, and poverty (Blanco et al., 2015; Tucker, 2020). CCPT is demonstrated to improve intrinsic motivation and academic achievement in at-risk elementary children (Blanco et al., 2019), marginalized children (Post et al., 2019), and children with highly disruptive behaviors in high-poverty schools (Cochran & Cochran, 2017).

Several researchers have investigated the impact of play therapy on children from marginalized backgrounds. For example, Ray et al. (2022) found CCPT effective among children who have experienced ACEs and were at risk for complex trauma. Additionally, Taylor and Ray (2021) explored the impact of CCPT on the social-emotional competencies of African American children, using the Social-Emotional Assets and Resilience Scale-Parent and Teacher reports to measure treatment outcomes. According to parent reports, results indicated that children in the CCPT group demonstrated statistical and practical significance compared to the control group. Teachers reported that children in the CCPT group demonstrated practically significant improvement compared to the waitlist control group. Statistically significant improvements in empathy and responsibility were noted during a follow-up analysis.

Post et al. (2019) reviewed the literature that examined the effectiveness of CCPT with marginalized children. The inclusion criteria for their review included recent meta-analyses and controlled outcome studies using CCPT as the intervention. They conducted their research in high-poverty schools (i.e., Title 1 schools or Head Start) where more than half of the participants were minority group children. Post and colleagues reported that CCPT is effective with marginalized children and that non-directive approaches had larger effect sizes (Bratton et al., 2005) and directive approaches and non-Caucasian children demonstrated more significant benefit from non-directive therapy than Caucasian children (Lin & Bratton, 2015).

Swan and Schottelkorb (2015) employed a single-case design in a case study to investigate the process of change in child-centered play therapy for a child with an intellectual disability. Results showed a significant decrease in negative behavior. Furthermore, the child's play behavior shifted from disorganized to functional and constructive. Specifically, the researchers measured the child's awareness of the environment, others, and self, and the child's ability to be relational and respond to the therapist. An example of this was seen in the child's increase in verbal and nonverbal engagement responses with the therapist.

Using a single case design, Haas and Ray (2020) explored the potential therapeutic benefits of CCPT with children who experienced 4 ACEs. Participants in their study had 8 or more ACEs. Researchers used the Strengths and Difficulties Questionnaire (SDQ) to assess emotional symptoms, conduct problems, peer relationship problems, and prosocial behavior, as well as children exposed to four or more ACEs. Both participants had clinical levels in some or all the SDQ subscales. Significant improvement

was noted as clinical features were no longer present during the follow-up phase of the study.

Child-Centered Play Therapy in Head Start

Dillman-Taylor and colleagues (2021) also used a single case research design (SCRD) to study the effects of CCPT on preschool-aged children in a Head Start program. All participants were considered at-risk, living in poverty, and economically disadvantaged. They reported that visual analysis and statistical methods across baseline and treatment phases determined evidence of reliable and clinically significant improvements in problem behaviors.

Bratton et al. (2013) conducted a pilot study with 54 low-income preschool children in a Head Start program. Eighty-one percent of participants were of African American or Hispanic descent and found practical and clinical significance supporting CCPT as an early mental health intervention in reducing disruptive behaviors of preschool-aged children in the classroom. Statistically significant decreases in clinical issues were noted, with 21 of 27 children in the treatment group no longer exhibiting clinical behavioral concerns from pretest to posttest. Tucker (2020) conducted a study to explore the impact of CCPT on academic achievement of children living in poverty. In a study of 55 participants enrolled in a Title I school, half of them were placed in a CCPT treatment group, and half were placed in a waitlist control group. Results of mixed-design ANOVA of academic achievement scores indicated a medium effect size between treatment and control groups, indicating CCPT as an effective intervention to improve the academic achievement of children in poverty.

One of the expected outcomes of play therapy is an increase in autonomy and self-efficacy (Landreth, 2023), which may impact academic achievement (Blanco & Ray, 2011). Tucker (2020) conducted Child-Centered Play Therapy with children in economically disadvantaged school districts and found that participation in play therapy resulted in statistically significant differences between a waitlist control group and an experimental group, which yielded medium effect sizes. Based on Tucker (2020) CCPT may be an effective treatment for children struggling with academics due to the impact of chronic poverty. Furthermore, Baggerly (2004) conducted group child-centered play therapy within unhoused or homeless children to impact self-concept. Results indicated significant improvements in global self-concept and feelings of competence, which Baggerly (2004) identifies as an essential reason to implement CCPT to help social and academic functioning in schools.

Cochran and Cochran (2017) studied child-centered play therapy for children in economically disadvantaged schools to address children's behavioral concerns in poverty. Across nine hours of therapy, they found that participating children demonstrated improvement in total problems reported, externalizing problems, attention-related problems, and academic self-efficacy. However, this study did not find an impact on internalizing problems. There is an established history of CCPT's effectiveness in treating anxiety, depression, PTSD and addressing academic achievement (Baggerly, 2004; Blanco & Ray, 2011; Schottelkorb & Doumas, 2012; Shen, 2002; Stulmaker & Ray, 2015). These issues are ones that children experiencing poverty constantly face; however, there has been little research focused specifically on children in poverty and play therapy.

Purpose of the Study

For this study, we used a single-case research design (SCRD) to investigate the impact of CCPT) on preschool children ages 3-5 years old who have experienced multigenerational poverty and are trauma-affected. This study is similar to research conducted by Meany-Walen and colleagues (2015) and Dillman-Taylor and Meany-Walen (2015). In those studies, a SCRD was used to explore the impact of Adlerian Play Therapy (AdPT) on elementary-aged children exhibiting disruptive behaviors in their classrooms. The children in our study are preschool-aged children from high poverty-trauma-affected backgrounds. More specifically, we examined the effect of CCPT on the child's emotional symptoms, conduct, hyperactivity, peer relationships, and prosocial behaviors. Using a single-case design, we collected data throughout the baseline and intervention. Follow-up data were not collected as the participating school closed early for the holiday season to conduct long-needed repairs to their building. The current research seeks to answer several questions about children experiencing poverty and participating in play therapy.

Research Question 1: What impact does child-centered play therapy have on the total difficulties that children experiencing poverty demonstrate? Research Question 2: Does play therapy result in a different level of functioning as compared to baseline behavioral difficulties? Research Question 3: What are the dynamics of the week-to-week of a child's difficulties when participating in weekly child-centered play therapy?

Methodology

During the study, the researchers implemented an A-B method of single-case design research to examine the effect of child-centered play therapy on emotional and behavioral difficulties in students who experienced poverty (N=5). We selected this design due to the sample size available within the school as well as the intention of the researchers to understand the differential trends across treatment phases of play therapy for participants. Data was collected and analyzed for each participant separately. This was accomplished by entering each student's weekly scores on the subscales and the total score of the instruments into an individual spreadsheet for the student. A separate spreadsheet was created for each student. Statistics and visual analysis were conducted by comparing an individual child's scores over time instead of comparing scores between students.

Context of the Study

The participants in the study were students at an early childhood development center specializing in trauma-informed care for students aged from infancy to five years of age. A significant percentage of students came from families of lower socioeconomic status, from a public housing neighborhood in a moderate sized city in the Southwestern United States where the poverty rate is approximately 25% compared to the 11.5% poverty rate for the entire United States (U.S. Census Bureau, 2021). Children from this neighborhood experience multigenerational poverty and are potentially trauma-affected. This study was conducted in 2021, during which COVID-19 significantly affected the lives of staff and students at the school. As a result, substitute teachers were frequently utilized, and children had more absences than usual.

The Neurosequential Model

Parents of children admitted to the preschool complete an admission process and demonstrate need based on the Caregiving Challenge

Estimator (CCE). The CCE is a means to estimate parent resources and the demands of caregiving. The emotional and physical stressors of caregiving are significantly increased for persons in poverty. When the caregiver is exhausted, meeting the child's needs may become problematic.

Additionally, children enrolled in the preschool complete a brain mapping process developed by Perry (2008). The Neurosequential Model of Therapeutics (NMT) is a developmentally sensitive, neurobiologically informed approach to clinical work with children who have experienced trauma. NMT is not a specific intervention or therapeutic method. It is an integrative approach to working with children and families in their local communities. NMT is an approach that utilizes assessment, capacity building, and specific enrichment and educational activity recommendations to match the needs and strengths of the child (Barfield et al., 2012):

> The NMT includes an assessment process that creates a "functional map" of the child's brain based upon current status of various brain-mediated functions (see Perry, 2009). The map is a visual representation of the "localization" and status (e.g., developed, well-organized vs. undeveloped or disorganized) of various brain-mediated functions (e.g., *brainstem* – respiration, suck/swallow/gag; *diencephalon* – feeding/appetite, sleep; *limbic* – affect regulation/mood, attunement; *cortex/frontal cortex* – self-awareness/self-image, abstract/conceptual cognition). The NMT assessment, then, provides the clinician and educator with the individual child's strengths and vulnerabilities in an array of key domains of functioning: sensory integration, self-regulation, relational, and cognitive. This information helps direct the selection and timing of developmentally appropriate enrichment, educational and therapeutic activities. (p.31)

The NMT approach works on the assumption that when sequential educational and therapeutic efforts match the child's development and neural organization, those efforts are more effective (Barfield et al., 2012). Barfield and colleagues (2012) studied the use of the NMT on the social-emotional development and behavior of 28 children participating in a therapeutic preschool program. The integration of developmentally appropriate activities improved participant social-emotional development. Follow-ups at six and 12 months indicated retention of the gains. Filial Play Therapy was part of the preschool program, along with developmentally appropriate interventions. Filial Play Therapy is an intervention in which parents are provided training on how to implement principles of play therapy in their parenting style and are given guidance and feedback on how they play with their child. Teachers and staff at the research site are trained to provide therapeutic responses to children as part of their initial and ongoing preparation to work with children at the center—specifically, reflective responding, esteem-building, and limit setting.

High Scope Curriculum

In addition to the NMT approach, the school utilizes the High Scope Curriculum (HSC; High Scope, 2011) as the primary educational intervention. The HSC is a product of the Perry Preschool Project (American Institutes for Research in the Behavioral Sciences, 1969). High Scope is a cognitive curriculum that is student-initiated rather than teacher-directed. The HSC views children as active learners and further distinguishes itself from other preschool programs because it emphasizes independent thinking and problem-solving rather than social

development and relationships (Schweinhart & Hohmann, 1992).

The teaching staff at the preschool all hold a minimum of a bachelor's degree and are trained in using the HSC. Teachers are not inactive associates in the HSC framework. While the child initiates many activities, teachers actively guide children's choices toward various developmentally appropriate activities, practices, and experiences. Furthermore, teachers use the resources with the HSC model to balance teacher instruction with child-selected activities and are responsible for establishing and maintaining a daily routine.

Participants

Participants were recruited from a private, not-for-profit preschool that serves children from 8 weeks to five years of age from a public housing neighborhood in a moderate-sized city in the Southwestern United States. The school is self-described as a mental health therapeutic nurture center focused on the brain development of trauma-affected children. The school's mission is to send children to public school Kindergarten with the ability to self-regulate and be ready to learn in a calm, alert state.

All the participants at the cooperating site are from a neighborhood whose families suffer from multigenerational poverty and are trauma-affected. The school administrators presented the research recruitment literature to the parents/guardians of the children enrolled in the school. Ten participants began the study; however, one participant had multiple absences. The other four participants missed multiple play therapy sessions due to illness. Two participants were five years old, two were three, and one was four. There were four boys and one girl. We applied pseudonyms to protect participant identities.

Participant 2. Michael was a four-year-old African American boy. His teacher described him as a sweet boy who often watched out for others. They reported that he was frequently a caregiver to his mother, who had several medical conditions. Michael liked routines and would become very upset if there were unexpected changes. He would throw toys, lie on the floor, scream, and refuse to participate in activities.

Participant 3. Chad was a three-year-old Caucasian boy. His teacher described him as kind and quietly disruptive. They reported that he would quietly engage in activities that disrupted his peers and hide toys and other learning materials. Chad was verbal and would choose not to talk, instead pointing at objects and people to communicate with teachers and staff.

Participant 5. Larry was a five-year-old African American boy. His teacher described him as athletic and sometimes aggressive. They reported that he enjoys athletic activities and sometimes is unaware of body space and may run into other children while playing. Larry would scream at teachers and other children when he did not get his way.

Participant 9. Xander was a three-year-old Caucasian boy. His teacher described him as behaving in a typical way, as most children his age do. He enjoyed school activities but would behave less appropriately compared to his peers. He interrupted other students' activities, pushed their work on the floor, and was prone to tantrums.

Participant 10. Julianne was a five-year-old Caucasian girl. Her teacher described her as energetic, distracted, often off task, "spoke out" frequently during class, and determined to know

what others were doing instead of focusing on her behavior or tasks.

Measures

Strengths and Difficulties Questionnaire

The Strengths and Difficulties Questionnaire (SDQ) is a 25-item measure normed for use with 3-16-year-old children, which can be administered to parents, teachers, or children aged 11 and older. The results of the SDQ comprise a total problems scale and the following subscales: emotional problems, conduct problems, hyperactivity, peer problems, and prosocial behavior. The SDQ has a well-established history of both validity and reliability. When compared to the Rutter parent and teacher questionnaires (Rutter, 1967), a Receiver Operator Characteristic Curve analysis indicated that the SDQ had an area under the curve of .85 as compared to the Rutter's AUC of .84, indicating equivalent abilities to differentiate pathological from non-pathological members of the sample (Goodman, 1997). Stone et al. (2010) reviewed the psychometric properties of the SDQ, combining the quantitative results of multiple studies.

Across 26 studies, the SDQ teacher version yielded the following internal consistency reliability coefficients: Prosocial Behavior (.82); Hyperactivity/Inattention (.83); Emotional Symptoms (.73); Conduct Problems (.70); Peer Problems (.63); and Total Difficulties (.82). Additionally, a review of six studies yielded test-retest reliability which indicated a reliability coefficient of .84 for the total difficulties score, and coefficients ranging from .72 to .85 for the subscales. The SDQ was also examined for correlational validity with general measures of psychopathology and more specific measures of psychopathology, with scores supporting it for use in samples with behavioral problems (Stone et al., 2010). Finally, 13 studies have been conducted examining the factor structure of the SDQ, indicating the sufficiency of the factor structure to function as a psychometrically sound instrument. In summary, the SDQ has significant psychometric validity for use as a research instrument.

Procedures

After receiving permission from the university Institutional Review Board (IRB), parents with children at the center were recruited in person by staff and provided a written explanation of the study and informed consent for participation. Once each child's guardian returned informed consent documents, they were enrolled in the study. Parents were informed that participation in the study was voluntary and that there would be no loss of benefit of services for declining. We closed the recruiting period after 10 children aged three to five years were entered into the study.

This study utilized an A-B single-case design. During the first three weeks of the study, children were provided no services, but their teachers were administered the SDQ, which was completed each week during their planning and staff meetings. Three data collection points were used as the baseline phase due to Kennedy's (2005) recommendations and the school's need for therapeutic services. The treatment phase consisted of two 30-minute weekly play therapy sessions, afterwards teachers completed an SDQ on the participants each week. Due to the difficulties with COVID-19, the same teacher was not always able to complete the SDQ, but the teacher completing the SDQ was always responsible for the participant's class and was familiar with the participant. This issue will be further discussed in the limitations and future directions for the research section of this manuscript.

Treatment

Children enrolled in the study participated in eight weeks of child-centered play therapy. The play therapists in the study consisted of one Ph.D. level counselor and one student completing their internship during a master's in counseling program. Both therapists had at least one 3-credit hour university course in play therapy and at least 54 hours of counseling coursework. The playroom used in the study was developed using Landreth's (2023) guidelines for playrooms and appropriate toys. The following toy categories were represented in the playroom:

- Dolls
- Kitchen and food toys
- Art Supplies
- Dress-up Clothes
- Aggressive Toys (handcuffs, knives, swords, etc.)
- Animals (zoo/farm)
- Vehicles
- Musical Instruments
- Medical Kit

According to Landreth (2023), these toys allow for a wide range of emotional expression and provide opportunities for self-esteem building, relationship building, and exploration. The toys were adapted to represent various cultural backgrounds and populations represented at the center so children could associate culturally related feelings and issues (Chang et al.,2005; Hinds, 2005).

The therapists in the study followed Ray's (2011) protocol for play therapy skills. The following skills identified by Ray (2011) were utilized in sessions:

- Tracking Behavior
- Reflecting Content
- Reflecting Feeling
- Facilitating Decision Making
- Returning Responsibility
- Facilitating Creativity
- Esteem Building
- Facilitating the Relationship
- Limit-Setting

We conducted a visual analysis of the data to determine the effect of CCPT on the total difficulties score of the SDQ for the participants in the study. Visual analysis is a key means in SCD research for measuring experimental control. Visual analysis involves systematic procedures to determine functional relationships and assess data patterns by examining the available data, usually presented in a line graph, to assess changes in behavior. Both formative and summative evaluations are utilized to detect behavior changes within and across conditions (Barton et al., 2018; Ledford et al., 2018). While there is some debate among researchers regarding the use of visual analysis, Ledford and colleagues (2018) support its use, stating that effect size helps determine the magnitude of change, whereas visual analysis better demonstrates that a credible effect occurred.

Table 1

Summary Statistics

Participant	Baseline Median	Baseline SD	Treatment Median	Treatment SD	PEM
Participant 2	21	1	19.5	2.70	.75
Participant 3	23	4.6	16	3.7	.87
Participant 5	17	2.3	15	1.72	.86
Participant 9	8	.58	7	5.4	.62
Participant 10	25	1.7	22	4.1	.88

Results

Each participant's data was analyzed individually. However, Table 1 summarizes each student's median in the different phases, the standard deviation of each phase, and the percentage of weeks of treatment that exceed the median (PEM). What follows is a narrative of each participant's change throughout the study and an illustrative chart measuring growth from baseline to end of treatment.

Participant 2: Michael

The assessment scores in Figure 1 indicate that Michael showed improvement on the total difficulties section of the SDQ during the eight-week intervention. The median for the baseline was 21, which yielded a PEM of .75 for the treatment phase. In examining the overall trends for the total difficulties scale, the first and second weeks showed a drop-in problem, with a spike of problems in weeks 3 and 4, and then a gradual decline in problems throughout the remaining four weeks of treatment.

Participant 3: Chad

The assessment scores shown in Figure 2 indicate that Chad showed improvement in total problems. The median for the baseline is 23. The PEM for the total problems scores of the SDQ was .87, indicating that for seven of the eight weeks of treatment, Chad's total problems showed improvement that exceeded the median of the baseline phase. The overall trend for total problems indicated that the problems decreased during the first four sessions of the intervention,

Figure 1.

Participant 2 Total Problems

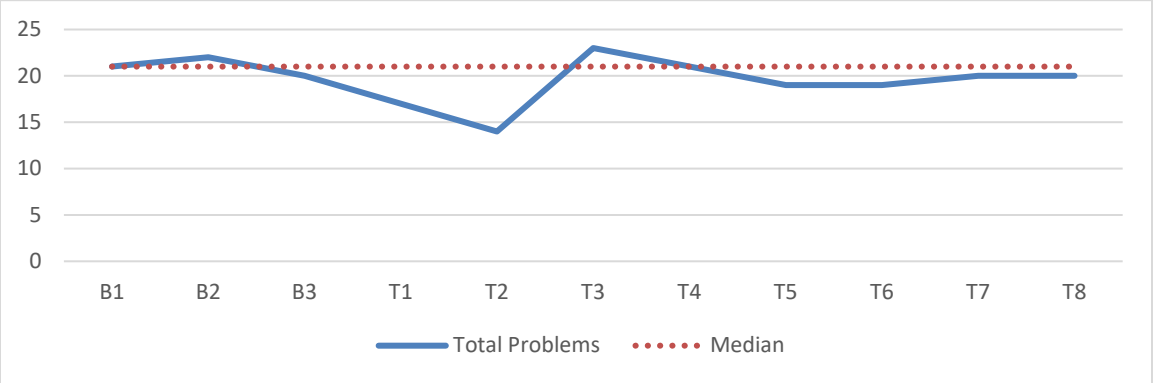
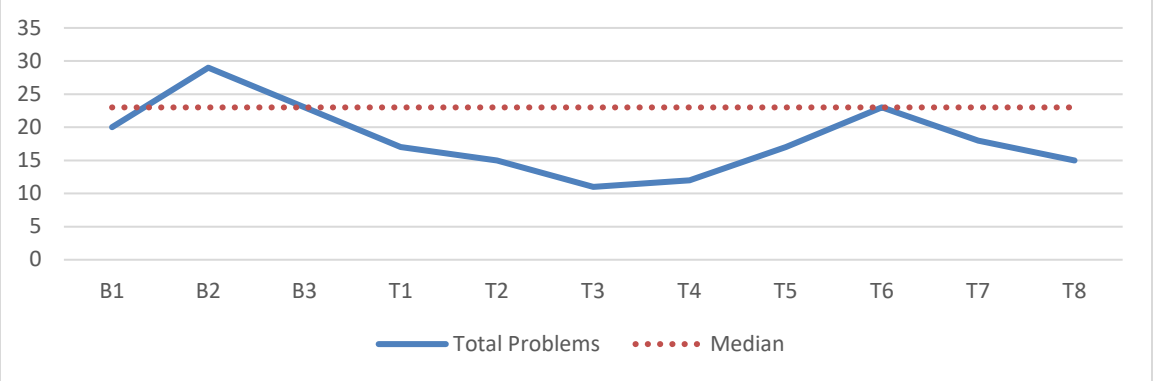


Figure 2.

Participant 3 Total Problems



an increase of problems occurred during the fifth and sixth weeks, followed by a decrease during the final two weeks of the intervention.

Participant 5: Larry

The assessment scores shown in Figure 3 indicate that Larry showed improvement in the total problems scale of the SDQ. The median for the baseline phase was 17. The PEM statistic for the total problems score was .86, indicating that scores across the seven weeks of treatment exceeded the mean during six of those weeks. During the first week, the score exceeded the median, followed by a slight decrease and stable and steady improvement until the end of treatment.

Participant 9: Xander

The assessment scores shown in Figure 4 indicate that Xander showed improvement during the intervention on the Total Problems scale of the SDQ. The median for the baseline phase was 8. The PEM statistic for the total problems score was .63, indicating that across five weeks of the intervention, the scores exceeded the median of the baseline. During the first two weeks of treatment, the scores exceeded the median slightly. This was followed by two weeks of slight functional decreases and a significant spike in problematic behavior in the fifth week. This was followed by rapidly improved behavior in the last three weeks of treatment.

Figure 3.

Participant 5 Total Problems

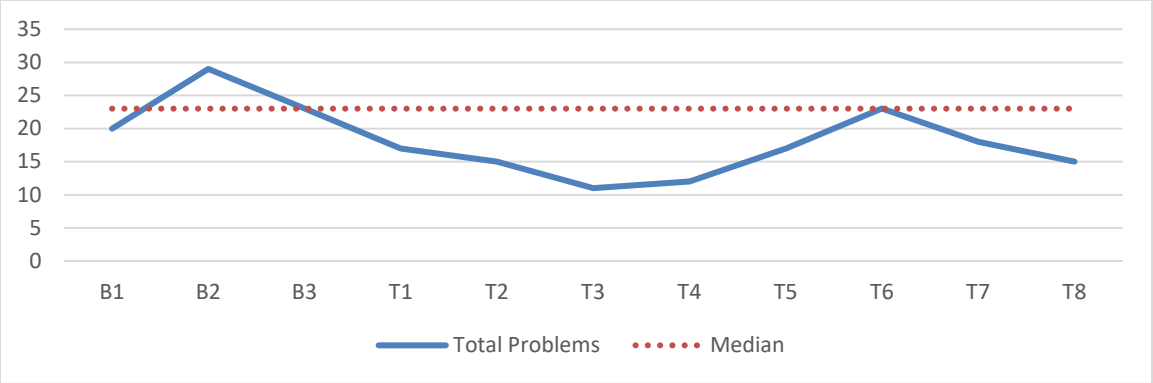


Figure 4.

Participant 9 Total Problems

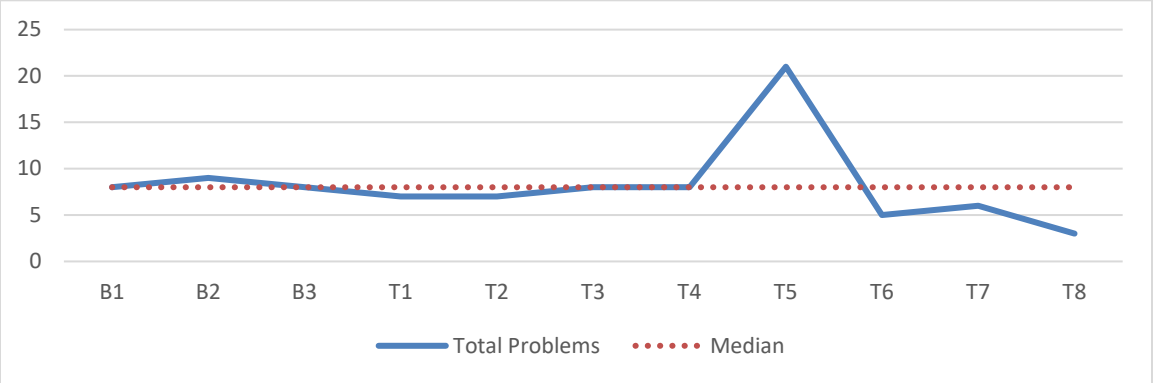
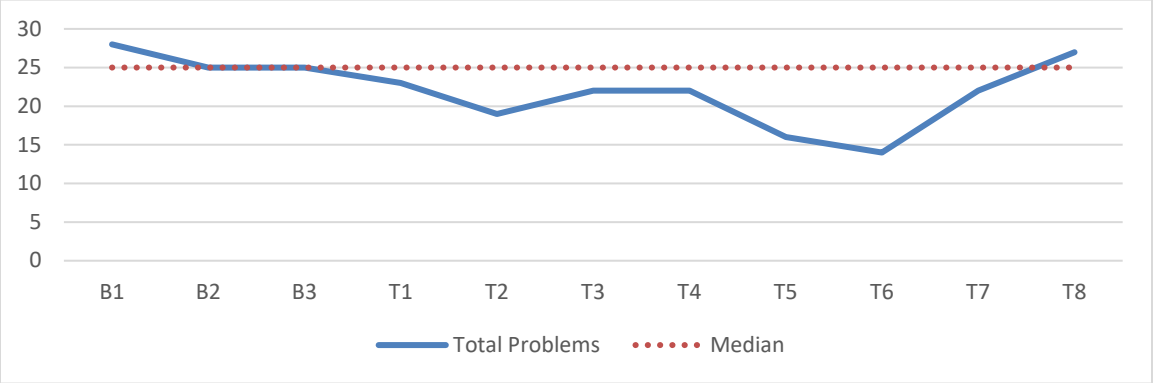


Figure 5.

Participant 10 Total Problems



Participant 10: Julianne

The assessment scores shown in Figure 5 indicate that Julianne showed improvement during the intervention on the Total Problems scale of the SDQ. The median for the baseline was 25. The PEM statistic for the total problems score was .88, indicating that during the eight weeks of treatment, the scores exceeded the baseline median for seven of those weeks. The scores were relatively stable during the first four weeks and exceeded the median. The scores then took a significant dip during the fifth and sixth weeks. During the final two weeks, functioning decreased, with the final week failing to exceed the median.

Discussion

We will now address the first two research questions, which focus on the impact of play therapy on the total problems the participants experienced and the impact on their behavior. The PEM for the individual cases ranged from .63 to 1.0, indicating that not only did the scores exceed the median but exceeded 50% of the treatment weeks measurement points across all the cases. All the cases also ended with a measurement demonstrating improvement from the initial baseline. In sum, we find that children demonstrated improvement on interpersonal skills, behavior problems, and attention problems measured by the total difficulties score when provided with weekly CCPT.

Regarding the third research question, several interesting results occurred when looking at the week-to-week growth that children experienced. The results indicated that CCPT did not result in continuous linear growth. Landreth (2023) indicated that CCPT consists of several phases, some of which result in more conflict and emotional difficulties and others which result in smoother growth experiences. Furthermore, Landreth discussed the individuality of children in their growth process and that some children grow slowly, others quickly, and some experience rapid growth seemingly overnight.

According to Guerney (2001), an "aggressive" stage may arise after a child adjusts to the therapy structure. The therapeutic issues that trigger the symptoms presented at home or school can now be addressed in the safety of the playroom.

Our study indicated two common periods during which students experienced difficulties. Some students experienced difficulties during the middle sessions (e.g., session #3 to session #5). This often correlated with difficulties entering the working phase of play therapy and indicates that the child may have experienced some difficulties as they began working on self-

control, self-regulation, and self-acceptance. The second phase during which children showed difficulty was the later phases (sessions #6 and #7). This could represent some initial regression as the therapy ends (Landreth, 2023). However, this can be a positive sign, as it could be presumed that if some degree of regression occurs, the relationship may be meaningful to the child and a possible positive element in their life.

One issue worth considering is that this was a time-limited intervention with eight weeks of treatment. Bratton et al. (2005) indicated in their meta-analysis that the optimal number of sessions (e.g., the number at which growth seemed to plateau on average) was 40. Furthermore, LeBlanc et al. (2001) indicate that play therapy treatment with less than ten sessions might not demonstrate positive outcomes. Thus, the current study demonstrated improvement in under ten sessions, but more prolonged treatment might demonstrate further growth or patterns that may be of note. This was not possible in the current study due to the constraints of the school and the stressors imposed by the pandemic.

Limitations and Future Directions

This study has several limitations which limit generalizability. One of the problems this study faced was the complications of doing outcome research during a pandemic. Due to the COVID-19 pandemic, there were greater degrees of sickness, leading to participant absences (and thus absences during treatment) and teacher absences. One major complication was that the same teacher did not always complete the child's assessment (though it was always the teacher conducting class for that child). Thus, the results should be viewed carefully in terms of the stability of scores.

Another issue in generalizability and a direction for future research is that the sample was limited to a single geographic location and school. As such, this sample may have unique features that may not apply to all samples. To address this issue, we suggest that future studies replicate the results of this one to confirm that the outcomes found in this single-case design study hold constant across other samples.

As is often the case with single-case design, a small number of therapists were involved in providing treatment in this study. While all the therapists in the study followed the CCPT protocol, it is essential to understand that therapist characteristics such as ethnicity, gender, and age have an impact, especially when working with children. As such, therapist dynamics regarding their impact on treatment should be carefully considered.

While this study examined the total difficulties that students experienced, there are a variety of other conditions to which poverty may predispose children. Malnutrition, developmental delays, chronic stress, and poor academic performance are conditions associated with children raised in poverty (Brooks-Gunn et al., 2021). Future studies investigating the impact of CCPT on educational attainment, depression, anxiety, and PTSD could further bolster the role of CCPT as a first-line intervention for children experiencing poverty.

Conclusion

CCPT is a robust therapeutic intervention with the capacity to help children facing a variety of mental health issues, such as anxiety, depression, PTSD, and academic issues (Blanco & Ray, 2011; Schottelkorb & Doumas, 2012; Shen, 2002; Stulmaker & Ray, 2015). Through its ability to provide children with a

developmentally appropriate language to express themselves, children can manifest improved self-concept, self-acceptance, self-regulation, and self-control (Landreth, 2023). The current study is one of a handful of studies examining play therapy's impact on children experiencing poverty. With poverty's wide-ranging and potentially long-term effects, CCPT is an intervention that holds great promise. The researchers hope that clinicians utilize this intervention to work with students experiencing poverty and that researchers begin to explore the impact of this intervention on a vulnerable population.

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