

The Effects of Child-Centered Play Therapy on the Behavioral Performance of Three First Grade Students With ADHD

Audrey Robinson, Chris Simpson, and Brittany L. Hott
Texas A&M University–Commerce

A single-case multiple baseline across-participants design was used to investigate the effects of child-centered play therapy (CCPT) on hyperactivity/impulsivity and inattention in 3 first grade students. Students were referred to our study by classroom teachers using a behavior checklist. Parents and teachers filled out the Attention Deficit Disorders Evaluation Scale (4th ed., [McCarney & Arthaud, 2013](#)) to qualify students for our study. Students who scored in the moderate or severe range from the same classroom were selected for our study. The Direct Observation Form (DOF; [McConaughy & Achenbach, 2009](#)) was used to assess behaviors across baseline, treatment, and maintenance conditions by trained observers. Students participated in an average 3 CCPT sessions each week for 6 weeks, for a total of 18 sessions. Visual inspection techniques were used to analyze the effects of CCPT on attention-deficit/hyperactivity disorder (ADHD) behaviors. Results indicated that there was a small effect size for CCPT on ADHD behaviors. Analysis of individual subscales revealed moderate or large effect sizes increasing time on task and decreasing total problems in the classroom, sluggish cognitive tempo, immature/withdrawn behavior, intrusive behavior, and oppositional behavior in individual participants. The Behavior Intervention Rating Scale (BIRS; [VonBrock & Elliott, 1987](#)) was completed out by the teacher posttreatment as a measure of social validity. The teacher indicated that CCPT was an appropriate intervention for students with ADHD, has utility in the school setting, and would recommend CCPT to other teachers. Limitations, suggestions for future research, clinical implications, and conclusions are presented.

Keywords: child-centered play therapy, ADHD, single-case research design

Attention-deficit/hyperactivity disorder (ADHD) is one of the most common childhood diagnoses ([DuPaul & Stoner, 2014](#)). Students with ADHD struggle with academic achievement and peer relationships, and are at risk for long-term struggles ([Barkley, Fischer, Smallish, & Fletcher, 2006](#); [Biederman et al., 2006](#)). Adolescents and young adults who were initially diagnosed with ADHD as children were found to have several problems, including: higher dropout rates (32% vs. 0%), higher retention rates (42% vs. 13%), more comorbid mental disorders, and more prevalent long-term work disability than those who were not diagnosed

with ADHD as children ([Barkley et al., 2006](#); [Biederman et al., 2006](#)). The prevalence of ADHD, both diagnosed and perceived, coupled with the rate of referral in the school system and possibility for long-term negative effects highlight a need for effective ADHD treatment early in childhood ([Barkley et al., 2006](#); [Biederman et al., 2006](#); [Fredriksen et al., 2014](#)). School-based interventions have become increasingly more commonplace and are appropriate since students experience many ADHD related difficulties at school ([DuPaul & Stoner, 2014](#)).

Play therapy is a developmentally appropriate treatment, for children age 3 to 11, that promotes communication in the child's natural language, play ([Landreth, 2012](#)). [Bratton, Ray, Rhine, and Jones \(2005\)](#) and [Baggerly, Ray, and Bratton \(2010\)](#) completed meta-analyses of play therapy intervention studies. Results support the efficacy of play therapy with children experiencing a variety of emotional and behavioral disorders. However, only one study included

Audrey Robinson, Chris Simpson, and Brittany L. Hott,
Department of Psychology, Counseling, and Special Education, Texas A&M University–Commerce.

Correspondence concerning this article should be addressed to Audrey Robinson, 221 Overland Trail, Mesquite, TX 75149. E-mail: amrobinson621@gmail.com

children with ADHD. Further, children in rural or low-income areas may not have access to counseling and therapy outside the school setting. More recently, Ray, Armstrong, Balkin, and Jayne (2015) completed a systematic review of 23 studies evaluating the effectiveness of CCPT in the school settings. Results indicated that CCPT interventions are an empirically validated intervention for students with externalizing problems, internalizing problems, total problems, self-efficacy, academic, and other behaviors. School counselors are in need of efficacious counseling interventions to best meet the needs of all students including those with ADHD. This need is even more pronounced in low-income, high needs schools. The purpose of our study is to examine the effects of CCPT on behavioral performance of elementary school students with ADHD. The following research questions are addressed:

1. What effect does CCPT have on identified ADHD behaviors in three elementary students as rated by trained observers?
2. How satisfied was the teacher with CCPT?

Method

A single-case, multiple baseline across-participants research design was implemented to investigate if a functional relationship was evident between CCPT and hyperactivity/impulsivity and inattention in three elementary school students who scored in the moderate or severe range on the Attention Deficit Disorders Evaluation Scale (4th ed.; ADDES-4). A single-case design was selected for our study because of the small sample size, and it is less likely to have an extensive list of exclusion criteria

(Gast, 2010; Horner et al., 2005; Ray & Schottelkorb, 2010; Rizvi & Nock, 2008).

Setting

All sessions took place in the office of the elementary school counselor at the students' school. The school counselor's space is used both as an office and playroom. The desk was at one end of the office near the windowless door, while the area used for play is at the opposite end of the office. Toys were arranged by type on shelves that run along the back wall under a large window. The school counselor acted as the play therapist, and students were familiar with the school counselor and her office from guidance lessons in their classrooms and other school programs.

Participants

A first grade classroom teacher identified students who met six or more of the criteria on the checklist of behaviors adapted from the *DSM-IV* (2000) and shared study information with parents. After parents provided consent and students provided assent, teachers and parents filled out the ADDES-4 (McCarney & Arthaud, 2013) to qualify children for our study. The items are frequency-referenced quantifiers on a six-point scale ranging from 0 (*not developmentally appropriate for age*) to 5 (*one to several times per hr*). Scores in the subscales and overall can yield scores in the normal (8+), moderate (5–7), or severe range (1–4). Students qualified for our study with scores in the moderate and/or severe range. All participants are referred to through the use of pseudonyms. Table 1 includes participant demographics.

Table 1
Student Demographics

Student	Age	Grade	ADDES-4	Ethnicity
Paul	6	1	Inattentive, moderate (4.5); hyperactive, severe (3.5) Total: Severe (4)	Hispanic
Phillip	6, turned 7	1	Inattentive, moderate (4.5) Hyperactive, moderate (6) Total: Moderate (5.25)	Hispanic
Thomas	6	1	Inattentive, severe (4); hyperactive, moderate (4.5) Total: Severe (4.25)	Hispanic

Note. ADDES-4 = Attention Deficit Disorders Evaluation Scale (4th ed.).

Dependent Measure

The Direct Observation Form (DOF; [McConaughy & Achenbach, 2009](#)) was used by trained observers to track student behavior. The DOF is a 10-min observation tool for 6- to 11-year-old children in school classrooms and at recess, which consists of writing a narrative description during 10-min periods and rating on-task behavior at ten 1-min intervals. At the end of the 10-min observation, the trained observer rates 88 problem items on a scale of 0 to 3. The DOF scales for classroom observations include (a) sluggish cognitive tempo; (b) intrusive; (c) immature/withdrawn; (d) oppositional; (e) attention problems; (f) DSM-oriented ADHD problems, with inattention and hyperactivity-impulsivity subscales; (g) on-task; and (h) total problems-classroom. It is recommended to average two to six 10-min observations to obtain a more accurate score for the identified child. The DOF publisher also recommends completing observations at different times of day, morning and afternoon.

Procedures

A multiple baseline design across participants with randomized phase start-point designs was implemented to improve internal validity as outlined by [Kratochwill and Levin \(2010\)](#). Demonstrating stability of baseline data is important, and three or more data points are needed, as recommended by [Kennedy \(2005\)](#). The randomized multiple baseline design across participants is among strongest designs for Single Case Research Design (SCRD; [Kratochwill & Levin, 2010](#)). The total study time was broken into time periods based on weekly observations for each phase. A minimum baseline time was chosen for the start of the sequence, then the treatment phase of a standardized length, followed by a no treatment maintenance phase. An online randomization calculator was used to determine the minimum baseline. The baseline phase included four periods, immediately followed by 18 periods for the treatment phase. The length of the baseline was randomly chosen from a length of four to eight observation data points, a minimum of at least two morning and two afternoon observations. One week after treatment, an observation was completed for the no-treatment maintenance phase to assess the

lasting effects of CCPT. The design was created using the previous components and the participants' treatment order was randomly selected.

After internal review board approval and informed consent, classroom teachers and parents filled out the ADDES-4 to qualify students who scored in the moderate or severe range. Once participants were selected, observational data were obtained for all students using the DOF across baseline, treatment, and maintenance phases. All observations were during academic time. Additionally, during the observation, the activity and teaching style and method were noted.

A counseling graduate student trained in observation collection also observed 36% of sessions during each phase to obtain interrater reliability ([Kratochwill et al., 2010](#)). Both raters independently observed the same classroom scene and compared DOF scores for training and interrater reliability purposes. Ratings were checked for accuracy and similarity. Training continued until the raters reach the minimum acceptable value of 0.80 for the DOF on five observations. Interrater reliability was calculated using percentage agreement ([Hartmann, Barrios, & Wood, 2004](#)).

A schedule was created for observations to balance morning and afternoon observations. Observations were performed on Tuesdays, Wednesdays, and Thursdays. These days were selected because of the frequency of days where students were not in school on Mondays and because district counselor meetings occur on some Fridays. In some cases, the schedule was modified because of snow days and student absences. One participant withdrew from the school and moved after 2 weeks in our study.

Treatment

CCPT was the method of treatment used for our study. Once the randomized baseline was completed, participants received 30-min sessions, 3 times a week, for 6 weeks. The times of the treatment for each student were scheduled for one morning, one physical education time, and one after school time. The therapist providing CCPT to participants was the principal researcher and school counselor at the elementary school attended by the students, with whom the students are familiar. The therapist was a doctoral candidate in counselor education, licensed

professional counselor in the state of Texas, and registered play therapist. The treatment protocol used is outlined in Ray's (2011) CCPT manual, found in the appendix of her book *Advanced Play Therapy: Essential Conditions, Knowledge, and Skills for Child Practice*.

Social Validity

It is important to consider the social significance, social acceptability, and social importance of interventions (Lane & Beebe-Frankenberg, 2004). A treatment that is too costly, takes too much time, or does not match up with treatment goals is likely to have low consumer satisfaction, and therefore lower success (Lane & Beebe-Frankenberg, 2004). Teachers are less likely to refer their students for play therapy, or to send students to sessions with fidelity, if they view the treatment as ineffective or time costly. For our study, the Behavior Intervention Rating Scales (BIRS; VonBrock & Elliott, 1987) was given to the teacher posttreatment to assess the social acceptability and effectiveness of CCPT. The BIRS is a 24-item scale using a 6-point Likert-type scale (1 = *strongly disagree*, 6 = *strongly agree*). The items are added up to give the total acceptability score, with higher scores indicating higher acceptability.

Data Analysis

Participants' behavioral responses were examined for effects of the intervention using visual inspection techniques. Visual inspection, which involves looking at graphs for differences, has been used frequently to interpret results in SCRDs (Gast, 2010; Kennedy, 2005; Scruggs, Mastropieri, & Regan, 2006). Six features were used in visual inspection (a) level, (b) trend, (c) variability, (d) immediacy of the effect, (e) overlap, and (f) consistency of data patterns across similar phases (Kazdin, 2003; Kennedy, 2005; Morgan & Morgan, 2009). They were assessed independently and jointly to ascertain whether the results indicate a relationship. For the purposes of our study, consistency of data in similar phases means data were examined within all baseline phases, all play therapy phases, and all no-treatment maintenance phases. It is more probable the data support a relationship when there is greater consistency.

Interrater reliability for visual inspection can be weak, due in part to the subjectivity of its nature (Park, Marascuilo, & Gaylord-Ross, 1990). Park et al. (1990) recommended using statistical procedures along with visual inspection. Percentage of nonoverlapping data (PND) and percentage of data exceeding the median (PEM) were used to evaluate overlap and treatment effect. Additionally, Tau-U was used to evaluate overlap and treatment effect and to assess the consistency of data in similar phases. Tau-U is a nonoverlap measure with baseline trend control (Parker, Vannest, & Davis, 2011).

Results

Overall results for visual inspection techniques were assessed for the two participants who completed our study and were compared to the few scores gathered from the participant who withdrew for the effect of CCPT on identified ADHD behaviors. Level was assessed by comparing the mean treatment score as compared with the baseline score, and both participants showed improvement in 6 out of 10 subscales. In two additional subscales, only one participant showed improvement. When level was analyzed for all areas using the line of best fit, both participants showed improvement in seven out of 10 subscales on the DOF. Another subscale showed improvement for one student and no change for the other. Trend was calculated using the least squares regression (Horner et al., 2005). The R^2 effect size values were interpreted using Cohen's guidelines (1988). An R^2 value of .01 demonstrates a small treatment effect, .09 demonstrates a medium treatment effect, and .25 demonstrates a large treatment effect. Analysis of the R^2 values indicated positive change in 7 out of 10 subscales. Two subscales had a small effect size; three subscales had a medium effect size; and two subscales had a large effect size.

Variability was calculated using the standard deviation from the mean score and was also used to analyze variability. The amount of variability was not consistent between participants for each scale. Total problems classroom and ADHD problems had higher variability for both participants. Phillip had higher variability in sluggish cognitive tempo, intrusive, and inatten-

tive behavior. Thomas had higher variability in time on task and oppositional behaviors.

PND, PEM, and Tau-U

The DOF requires a minimum of two observations, at least one morning and one afternoon, for score, so each participant's weekly observations were scored together to create a total weekly score. Because only one baseline score was obtained, the calculation of PND and PEM the same, although they are interpreted differently, and Tau-U was not able to be used to check for control for trend. For PND, scores less than 50% indicate an unreliable treatment, 50% to 70% indicates questionable effectiveness, 70% to 90% indicates a fairly effective treatment, and above 90% indicates a highly effective treatment (Mastropieri et al., 1986). For PEM, scores less than 0.70 indicate the treatment is not effective, 0.70 to 0.90 indicates moderate effectiveness; 0.90 to 1 indicates a highly effective treatment (Ma, 2006). The values set forth by Cohen (1988) were used to interpret Tau-U effect sizes: small treatment effect (0.20), medium treatment effect (0.50), large treatment effect (0.80).

PND and PEM were calculated for each subscale for the two participants who completed our study, and then a total study calculation was obtained. Tau-U was calculated for each subscale for each participant, and then weighted averages for Tau-U scores were obtained for each subscale. Two weighted averages were obtained; one for all 3 participants and one for 2 participants, excluding the participant who did not complete our study (see Table 2). The first participant was excluded from the second weighted average to attempt to control for skewing of scores. His Tau-U scores were limited to -1, 1, or 0 because he had only one score for baseline and one score for treatment. These high or low scores could falsely inflate or deflate weighted averages. Negative scores indicate a decrease in behavior, while positive scores indicate an increase in behavior. For all subscales, with the exception of on task, a negative score or decrease is favorable. A positive score for on task is favorable, indicating an increase in time on task. See Table 2.

Overall, CCPT had a large effect size for decreasing immature/withdrawn behavior. There was a medium effect size for decreasing

Table 2
PND, PEM, and Tau-U Scores

DOF subscale	PND	PEM	Tau-U
Total problems classroom	66.7%	.67	-.33
Time on task	50%	.50	.17
Sluggish cognitive tempo	75%	.75	-.58
Immature/withdrawn	83.4%	.83	-.83
Attention problems	33.3%	.33	.25
Intrusive	58.3%	.58	.25
Oppositional	83.4%	.83	-.67
Attention-deficit/hyperactivity disorder	41.7%	.42	.17
Inattentive	50%	.50	-.33
Hyperactivity/impulsivity	25%	.25	.46
Overall	56.7%	.57	-.2

Note. PND = percentage of nonoverlapping data; PEM = percentage of data exceeding the median; DOF = Direct Observation Form.

sluggish cognitive tempo, and oppositional behavior. A small effect size was found for decreasing total problems classroom, intrusive behavior, inattentive behavior, and increasing on task behavior. Unfavorably, a small effect size was found for increasing attention problems, ADHD problems, and hyperactivity/impulsivity.

The weighted average for all Tau-U calculations for the subscales was obtained. Two subscales showed moderate to large treatment effect and are analyzed subsequently.

Immature/withdrawn. Phillip's baseline score for the immature/withdrawn scale fell in the normal range. Thomas's baseline score for the immature/withdrawn scale fell in the normal range. Figure 1 presents a graphical representation of Phillip's and Thomas's behavior on the immature/withdrawn subscale of the DOF for baseline, treatment, and maintenance phases (see Figure 1).

Oppositional. Phillip's baseline score for the oppositional scale fell in the normal range. Thomas's baseline score for the oppositional scale fell in the normal range. Figure 2 presents a graphical representation of Phillip's and Thomas's behavior on the oppositional subscale of the DOF for baseline, treatment, and maintenance phases (see Figure 2).

Participant 1: Paul

Paul only completed 2 weeks of our study; however, his results were promising. Out of the three participants, his behavior was the

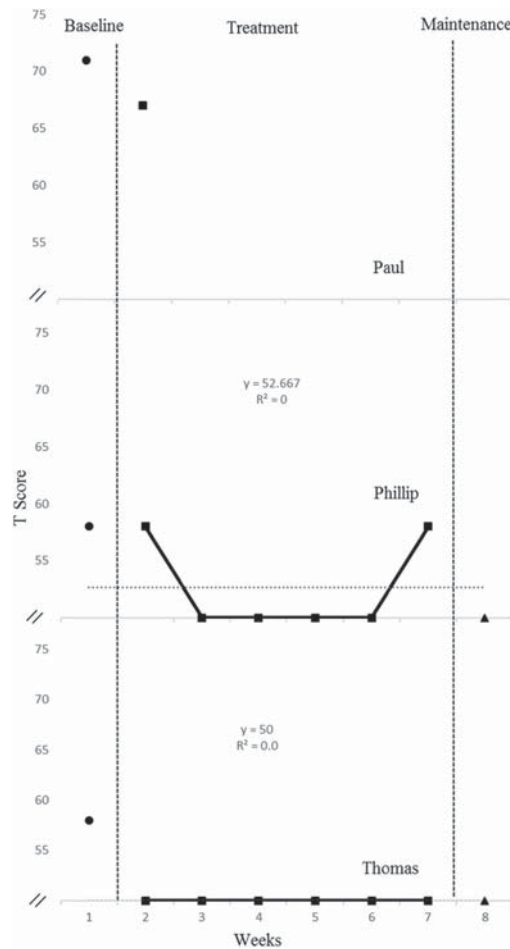


Figure 1. Immature/withdrawn behaviors as measured by on the Direct Observation Form (DOF) during the baseline, play therapy, and maintenance phases.

most severe, initially, on the ADDES-4. He scored in the clinical or borderline range on six out of 10 baseline subscales. His teacher also noted in conversation and the social validity measure that his problems included some outside of ADHD. She indicated family problems and changes were present. Even with an impending move and birth of a younger sibling, he showed positive change in six out of 10 subscales after 1 week of treatment. CCPT may have helped Paul cope with stressors and changes in school and outside of school, as is supported by the body of research (Baggerly et al., 2010; Bratton et al., 2005).

Participant 2: Phillip

Phillip qualified for our study with scores in the moderate range on the ADDES-4. All of Phillip's baseline scores, with the exception of total problems classroom, fell in the normal range. Tau-U results were analyzed and indicated a large treatment effect for oppositional behavior, as depicted in Figure 2. A moderate treatment effect was found for time on task, sluggish cognitive tempo, and immature/withdrawn behavior. A small treatment effect was indicated for inattentive behavior. There was no effect size (0) indicated for total problems classroom. Tau-U indicated a small treatment effect for increasing in behaviors for at-

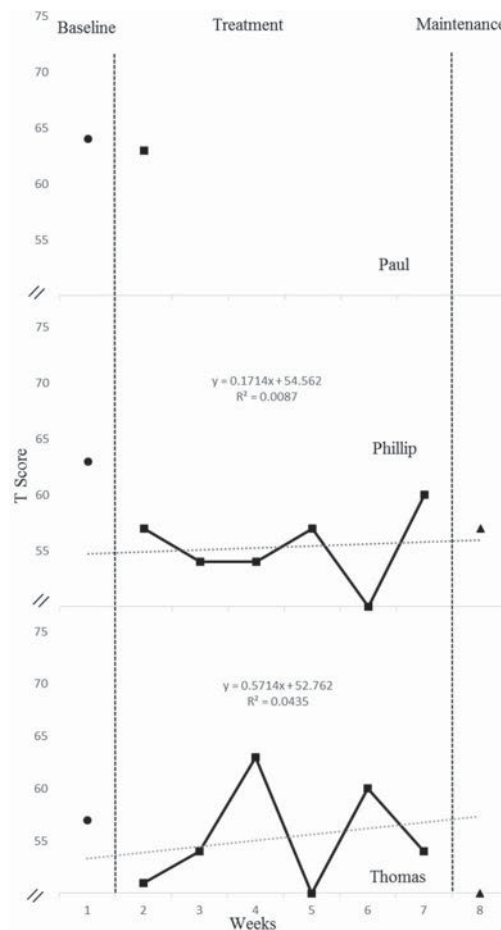


Figure 2. Oppositional behaviors as measured by on the Direct Observation Form (DOF) during the baseline, play therapy, and maintenance phases.

tention problems and ADHD problems and a moderate treatment effect for increasing hyperactivity/impulsivity behaviors. Mean scores for treatment supported these findings, showing no change or an increase from baseline in these areas. Although measures of overlap found little to no effect for total problems classroom, his DOF scores decreased into the normal range by the maintenance phase.

Factors external to our study were also analyzed, including (a) inclement weather days, (b) student absences, (c) observations completed with a substitute instead of the regular teacher, (d) spring break, and (e) changes in medication. Phillip did not seem to be consistently affected by the external factors. Phillip's mom indicated in the demographic questionnaire that he was not taking medication; however, after our study, the teacher reported that he was seeing the school nurse to take ADHD medication. It is unclear at what point this changed, or if the parent marked something in error, which calls these findings into question. It does, however, raise the question of how effectively the medication helps with behaviors. If he was already taking medication, it seems it was ineffective, since the teacher referred him to our study for problems in the classroom, and parent and teacher scored him in the moderate range on the ADDES-4.

Participant 3: Thomas

Thomas qualified for our study with scores in the moderate range just on the cusp of severe on the ADDES-4. He scored an average of 4.25, whereas severe scores are 4 or less. All of Thomas's baseline scores, with the exception of total problems, classroom and intrusive, fell in the normal range.

Tau-U results were analyzed and indicated a large treatment effect for decreasing immature/withdrawn behavior and intrusive behavior, as depicted in Figure 1. A moderate treatment effect was found for total problems classroom and sluggish cognitive tempo. A small treatment effect was indicated for oppositional behavior and inattentive behavior. There was no treatment effect (0) indicated for ADHD problems. Although measures of overlap found questionable effect or no effect for ADHD problems, his DOF scores showed great variability ($SD = 3.4$) and decreased in the maintenance phase. Tau-U

indicated a small effect size for decreasing time on task and increasing attention problems and hyperactivity/impulsivity problems. Mean scores for treatment supported the findings for attention problems, showing an increase from baseline in these areas. Time on task was already in the high end of the normal range, and treatment scores showed great variability ($SD = 9$). His maintenance data had a perfect score for time on task. The mean scores for treatment for the hyperactivity/impulsivity subscale showed a slight increase, but decreased in maintenance.

Factors external to our study were also analyzed, including (a) inclement weather days, (b) student absences, (c) observations completed with a substitute instead of the regular teacher, (d) spring break, (e) changes in medication, and (f) family changes. Thomas's mom indicated in the demographic questionnaire that he was taking medication, and no changes were reported during treatment. The medication and CCPT may have worked in tandem to help reduce problem behaviors on many subscales, a conclusion which is supported by research (MTA Cooperative Group, 1999). At times, Thomas would talk directly during the session, rather than symbolically through play, about his life during play sessions. He spoke of family changes, including an absent parent, being removed from one parent, and possible involvement of Child Protective Services; although it was not clear if these were events that were currently happening or past events that he was working through. CCPT may have helped Thomas cope with stressors and changes outside of school, as is supported by the body of research (Baggerly et al., 2010; Bratton et al., 2005).

Social Validity

The researchers examined the teacher's satisfaction with the treatment with a 24 question Likert scale instrument. She strongly agreed with the following statements: (a) Most teachers would find this intervention suitable for the behavior problem described, (b) the intervention would not have negative side effects for the child, and (c) the intervention would be useful for many children (VonBrock & Elliott, 1987). She agreed with the following statements: (a) This would be an acceptable intervention for the problem behavior; (b) I would suggest the use

of this intervention to other teachers; (c) I would be willing to use this intervention in the classroom setting; (d) the intervention is consistent with those I have used in the classroom setting; and (e) overall, the intervention would be beneficial for the child (VonBrock & Elliott, 1987). The teacher wrote a note to accompany each copy, explaining her overall feelings about CCPT. "I thought it was good for two of the students, and I would recommend other teachers have their kids do it." However, she felt CCPT was not successful for the student who didn't complete the study because "his problems were worse than just ADHD."

Discussion

The purpose of our study was to examine the effects of CCPT on behavioral performance of elementary school students with ADHD. Results suggest that CCPT may be a viable option for supporting students with ADHD. The two behaviors depicted in the above figures: immature/withdrawn behavior and oppositional behavior, an internalizing and externalizing behavior, respectively, were the two subsets of ADHD behaviors that had the greatest change. Their change supports the findings of previous research concerning the efficacy of CCPT to decrease internalizing and externalizing behaviors (Baggerly et al., 2010; Bratton et al., 2005; Ray, Armstrong, Balkin, & Jayne, 2015). Previous researchers found CCPT to be effective in the school setting (Ray et al., 2015), another finding that was supported across several subscales of the DOF in our study.

CCPT was most effective in reducing severe behaviors, and had a small effect in reducing mostly normal behaviors. Two students reported having family troubles and changes in addition to ADHD problems. CCPT may have helped these two students cope with stressors and changes in school and outside of school. These results are consistent with previous research (Baggerly et al., 2010; Bratton et al., 2005). Additionally, there were several external factors that may have had an effect, including (a) inclement weather days, (b) student absences, (c) observations completed with a substitute instead of the regular teacher, and (d) spring break. These factors appeared to affect Thomas more consistently than Phillip, indicat-

ing a possible difference in reaction to external factors.

Limitations

Participants were recruited from a convenience sample of first grade students at one Title I elementary school in North Texas. Although all 3 students demonstrated attention problems, the types of problems and severity differed. One student did not complete our study, limiting the strength of the multiple baseline design. Generalizability of study results is limited.

ADHD is a behavior that is difficult to operationally define. It has a broad scope of possible behaviors from the three different subtypes of ADHD. The variables were limited to those that could be assessed using the DOF, which could limit the scope of understanding how play therapy is helpful to children with ADHD. Additional research must be compiled to assess the effects of CCPT on other facets of ADHD.

Another major limitation of our study was the number of baseline phase points. A minimum of three to five observation points are recommended, and four to 10 points were set for the range for randomization (Horner et al., 2005; Kennedy, 2005). When numbers were randomly selected, 2 participants were set at five and 1 was set at six. Although the number of points fits the standard for SCRD, the baseline was condensed when scored on the DOF because it requires a minimum of two observations. Baseline observations were scored to yield a single baseline point. This eliminated the ability to examine the trend and stability of baseline. An extended baseline, with an even number of observations to be scored as pairs, would have provided a solid foundation for our study.

Several interruptions were that may threaten external validity, which in turn affects the generalizability of results. Although these interruptions threaten external validity, Hott, Limberg, Ohrt, and Schmit (2015) postulated that such interruptions occur in a variety of settings, in some cases mirroring similar controlled settings.

Suggestions for Future Research

The researchers find the results promising for certain behaviors associated with ADHD. Replication studies should be done to strengthen validity and reliability of the results of our

study. Additionally, research of rigorous design is needed to further explore the effects of CCPT on the broad spectrum of ADHD behaviors. Research that focuses on a variety of ADHD behaviors at differing severities will help to broaden the understanding of how CCPT affects ADHD behaviors. A larger sample of five students using the multiple baseline design would help to strengthen results and generalizability, and provide a buffer if students withdraw from our study. This includes multiple-baseline SCRD across participants with randomized phase start-point design where independent observers are used. Increasing the number of baseline observations and weekly observations would strengthen the data, as well. All participants of our study were Hispanic males attending a low SES school in one geographic region, and further research is needed to explore findings with more heterogeneous samples. Further research is needed to discover the effects of CCPT on ADHD in various settings. Research needs to be done to explore the effects of CCPT on ADHD and comorbid problems.

Clinical Implications

Several implications are noted for counselors working with children with ADHD behaviors. First and foremost, the results indicated play therapy can be helpful for children with ADHD behaviors. While not all participants showed the same effect for all scales, individual participants showed moderate to large effect with total problems in the classroom, sluggish cognitive tempo, immature/withdrawn behavior, intrusive behavior, oppositional behavior, and time on task. This finding underscores the idea that not all children diagnosed with ADHD exhibit the same behaviors. CCPT was shown to have effect on behaviors related to both the inattentive and hyperactive/impulsive subtypes of ADHD.

Report from parents, teachers, and students indicate that CCPT may also help comorbid problems, including family changes, a finding that is supported by the body of research (Baggerly et al., 2010; Bratton et al., 2005;). The teacher felt that the treatment would not be helpful for the student she identified as having problems broader than ADHD. This indicates that school staff, as well as parents, would benefit from education on the benefits and scope of CCPT. Teachers and parents might perceive

play as more helpful, if they understand more about the intervention. Counselors in schools and other practices can help advocate for the profession of counseling and children in need of counseling by educating others on play therapy.

We demonstrated that play therapy can be performed and effective in a school setting. In a survey of elementary counselors and behavior specialists in one district, only six out of 35 (17%) have been trained in play therapy. This may indicate that a majority of school counselors are not using play therapy in the school setting. Play is considered the child's natural language (Axline, 1947; Landreth, 2012). Talk therapy is not developmentally appropriate for young children and especially inappropriate for a child who chooses not to talk or is nonverbal (Landreth, 2012). To best serve children, play therapy should be more common in school counseling, which may point to a problem may have roots in counselor education programs.

References

- Abidin, R. R., & Robinson, L. L. (2002). Stress, biases, or professionalism: What drives teachers' referral judgments of students with challenging behaviors? *Journal of Emotional and Behavioral Disorders*, 10, 204–212. <http://dx.doi.org/10.1177/10634266020100040201>
- Achenbach, T. M., & Rescorla, L. A. (2001). *Manual for the ASEBA School-Age Forms & Profiles*. Burlington, VT: Research Center for Children, Youth & Families, University of Vermont.
- Alberto, P. A., & Troutman, A. C. (2013). *Applied behavior analysis for teachers* (9th ed.). Boston, MA: Pearson.
- American Counseling Association. (2014). *ACA code of ethics*. Alexandria, VA: Author.
- American Counseling Association. American School Counselor Association, National Association of School Psychologists, & School Social Work Association of America. (2006). *Removing barriers to learning and improving student outcomes: The importance of school-based mental health services*. Retrieved from <http://www.nasponline.org/advocacy/bigideashandout.pdf>
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: Author.
- American School Counseling Association. (n.d.). *Appropriate activities for school counselors; inappropriate activities for school counselors*. Retrieved from <http://www.schoolcounselor.org/asca/media/asca/home/appropriate-activities-of-school-counselors.pdf>

- Axline, V. (1947). *Play therapy: The inner dynamics of childhood*. Boston, MA: Houghton Mifflin.
- Baggerly, J. N., Ray, D. C., & Bratton, S. C. (Eds.). (2010). *Child-centered play therapy research: The evidence base for effective practice*. Hoboken, NJ: Wiley. <http://dx.doi.org/10.1002/9781118269626>
- Barkley, R. A., Fischer, M., Smallish, L., & Fletcher, K. (2006). Young adult outcome of hyperactive children: Adaptive functioning in major life activities. *Journal of the American Academy of Child and Adolescent Psychiatry*, 45, 192–202. <http://dx.doi.org/10.1097/01.chi.0000189134.97436.e2>
- Biederman, J., Monuteaux, M. C., Mick, E., Spencer, T., Wilens, T. E., Silva, J. M., . . . Faraone, S. V. (2006). Young adult outcome of attention deficit hyperactivity disorder: A controlled 10-year follow-up study. *Psychological Medicine*, 36, 167–179. <http://dx.doi.org/10.1017/S0033291705006410>
- Bratton, S. C., & Ray, D. C. (2000). What the research shows about play therapy. *International Journal of Play Therapy*, 9, 47–88. <http://dx.doi.org/10.1037/h0089440>
- Bratton, S. C., Ray, D., Rhine, T., & Jones, L. (2005). The efficacy of play therapy with children: A meta-analytic review of treatment outcomes. *Professional Psychology, Research and Practice*, 36, 376–390. <http://dx.doi.org/10.1037/0735-7028.36.4.376>
- Casey, R. J., & Berman, J. S. (1985). The outcome of psychotherapy with children. *Psychological Bulletin*, 98, 388–400. <http://dx.doi.org/10.1037/0033-2909.98.2.388>
- Centers for Disease Control and Prevention. (n.d.). *Attention-deficit/hyperactivity disorder (ADHD)*. Retrieved from <http://www.cdc.gov/ncbddd/adhd/data.html>
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum.
- DuPaul, G. J., & Stoner, G. (2014). *ADHD in the schools: Assessment and intervention strategies* (3rd ed.). New York, NY: Guilford Press.
- Evans, S. W., Owens, J. S., & Bunford, N. (2014). Evidence-based psychosocial treatments for children and adolescents with attention-deficit/hyperactivity disorder. *Journal of Clinical Child and Adolescent Psychology*, 43, 527–551. <http://dx.doi.org/10.1080/15374416.2013.850700>
- Fabiano, G. A., Pelham, W. E., Jr., Majumdar, A., Evans, S. W., Manos, M. J., Caserta, D., . . . Carter, R. L. (2013). Elementary and middle school teacher perceptions of attention-deficit/hyperactivity disorder prevalence. *Child and Youth Care Forum*, 42, 87–99. <http://dx.doi.org/10.1007/s10566-013-9194-1>
- Fredriksen, M., Dahl, A. A., Martinsen, E. W., Klungsoyr, O., Faraone, S. V., & Peleikis, D. E. (2014). Childhood and persistent ADHD symptoms associated with educational failure and long-term occupational disability in adult ADHD. *Attention Deficit and Hyperactivity Disorders*, 6, 87–99. <http://dx.doi.org/10.1007/s12402-014-0126-1>
- Gast, D. L. (2010). *Single subject research methodology in behavioral sciences*. New York, NY: Routledge.
- Hannah, G. L. (1986). *An investigation of play therapy: Process and outcome using interrupted time-series analysis* (Unpublished doctoral dissertation). Department of Applied Psychology and Counselor Education, University of Northern Colorado Greeley, CO.
- Hartmann, D. P., Barrios, B. A., & Wood, D. D. (2004). Principles of behavioral observation. In S. N. Haynes & E. M. Hieby (Eds.), *Comprehensive handbook of psychological assessment* (Vol. 3, pp. 108–127). New York, NY: Wiley.
- Horner, R. H., Carr, E. G., Halle, J., McGee, G., Odom, S., & Wolery, M. (2005). The use of single-subject research to identify evidence-based practice in special education. *Council for Exceptional Children*, 71, 165–179. <http://dx.doi.org/10.1177/001440290507100203>
- Hott, B. L., Limberg, D., Ohrt, J. H., & Schmit, M. K. (2015). Best practices for reporting and disseminating results of single case studies. *Journal of Counseling and Development*, 93, 412–417.
- Kazdin, A. E. (2003). *Research design in clinical psychology*. Boston, MA: Allyn & Bacon.
- Kazdin, A. E., Bass, D., Ayers, W. A., & Rodgers, A. (1990). Empirical and clinical focus of child and adolescent psychotherapy research. *Journal of Consulting and Clinical Psychology*, 58, 729–740. <http://dx.doi.org/10.1037/0022-006X.58.6.729>
- Kennedy, C. H. (2005). *Single-case designs for educational research*. Boston, MA: Pearson.
- Kratochwill, T. R., Hitchcock, J., Horner, R. H., Levin, J. R., Odom, S. L., Rindskopf, D. M., & Shadish, W. R. (2010). *Single-case design technical documentation*. Retrieved from http://ies.ed.gov/ncee/wwc/pdf/wwc_scd.pdf
- Kratochwill, T. R., & Levin, J. R. (2010). Enhancing the scientific credibility of single-case intervention research: Randomization to the rescue. *Psychological Methods*, 15, 124–144. <http://dx.doi.org/10.1037/a0017736>
- Landreth, G. L. (1991). *Play therapy: The art of the relationship*. Bristol, PA: Accelerated Development.
- Landreth, G. L. (2012). *Play therapy: The art of the relationship* (2nd ed.). New York, NY: Brunner-Routledge.
- Lane, K. L., & Beebe-Frankenberger, M. (2004). *School-based interventions: The tools you need to succeed*. Boston, MA: Pearson.
- LeBlanc, M., & Ritchie, M. (2001). A meta-analysis of play therapy outcomes. *Counselling Psychology*

- Quarterly*, 14, 149–163. <http://dx.doi.org/10.1080/09515070110059142>
- Ma, H. H. (2006). An alternative method for quantitative synthesis of single-subject researches: Percentage of data points exceeding the median. *Behavior Modification*, 30, 598–617. Retrieved from <http://proxy.tamuc.edu:8144/Direct.asp?Access-Token=544JU49TRQ99P6UZZBFWBWFBNQ9YTJ9W94&Show=Object>
- Mastropieri, M. A., & Scruggs, T. E. (1986). Early intervention for socially withdrawn children. *The Journal of Special Education*, 19, 429–441. <http://dx.doi.org/10.1177/002246698501900407>
- McCarney, A. B., & Arthaud, T. J. (2013). *Attention Deficit Disorders Evaluation Scale* (4th ed.). Retrieved from http://www.hawthorne-ed.com/images/adhd/samples/swf_files/h04850.pdf
- McConaughy, S. H., & Achenbach, T. M. (2009). *Manual for the ASEBA Direct Observation Form*. Burlington, VT: Research Center for Children, Youth, & Families, University of Vermont.
- Morgan, D. L., & Morgan, R. K. (2003). Single-participant research design: Bringing science to managed care. In A. E. Kazdin (Ed.), *Methodological issues and strategies in clinical research* (3rd ed., pp. 635–654). Washington, DC: American Psychological Association.
- Morgan, D. L., & Morgan, R. K. (2009). *Single-case research methods for the behavioral and health sciences*. Thousand Oaks, CA: Sage. <http://dx.doi.org/10.4135/9781483329697>
- Park, H., Marascuilo, L., & Gaylord-Ross, R. (1990). Visual inspection and statistical analysis of single-case designs. *Journal of Experimental Education*, 58, 311–320. <http://dx.doi.org/10.1080/00220973.1990.10806545>
- Parker, R. I., Vannest, K. J., & Davis, J. L. (2011). Effect size in single-case research: A review of nine nonoverlap techniques. *Behavior Modification*, 35, 303–322. <http://dx.doi.org/10.1177/0145445511399147>
- Ray, D. C. (2010). Challenges and barriers to implementing play therapy in schools. In A. A. Drewes & C. E. Schaefer (Eds.), *School-based play therapy* (2nd ed., pp. 87–104). Hoboken, NJ: Wiley. <http://dx.doi.org/10.1002/9781118269701.ch4>
- Ray, D. C. (2011). *Advanced play therapy: Essential conditions, knowledge, and skills for child practice*. New York, NY: Routledge.
- Ray, D. C., Armstrong, S. A., Balkin, R. S., & Jayne, K. M. (2015). Child-centered play therapy in the schools: Review and Meta-Analysis. *Psychology in the Schools*, 52, 107–123. <http://dx.doi.org/10.1002/pits.21798>
- Ray, D. C., & Schottelkorb, A. A. (2010). Single-case design: A primer for play therapists. *International Journal of Play Therapy*, 19, 39–53. <http://dx.doi.org/10.1037/a0017725>
- Rivzi, S. L., & Nock, M. K. (2008). Single-case experimental designs for the evaluation of treatments for self-injurious and suicidal behaviors. *Suicide and Life-Threatening Behavior*, 38, 498–510. <http://dx.doi.org/10.1521/suli.2008.38.5.498>
- Schumann, B. (2010). Effectiveness of child-centered play therapy for children referred for aggression in elementary school. In J. Baggerly, D. Ray, & S. Bratton (Eds.), *Effective play therapy: Evidence-based filial and child-centered research studies* (pp. 193–208). Hoboken, NJ: Wiley.
- Scruggs, T. E., Mastropieri, M. A., & Regan, K. S. (2006). Statistical analysis for single subject research designs. *Applications of Research Methodology: Advances in Learning and Behavioral Disabilities*, 19, 33–53.
- MTA Cooperative Group and the Multimodal Treatment Study of Children with ADHD. (1999). A 14-month randomized clinical trial of treatment strategies for attention-deficit/hyperactivity disorder. *Archives of General Psychiatry*, 56, 1073–1086. <http://dx.doi.org/10.1001/archpsyc.56.12.1073>
- VonBrock, M., & Elliott, S. N. (1987). The influence of treatment effectiveness information on the acceptability of classroom interventions. *Journal of School Psychology*, 25, 131–144. [http://dx.doi.org/10.1016/0022-4405\(87\)90022-7](http://dx.doi.org/10.1016/0022-4405(87)90022-7)
- Weisz, J. R., Weiss, B., Alicke, M. D., & Klotz, M. L. (1987). Effectiveness of psychotherapy with children and adolescents: A meta-analysis for clinicians. *Journal of Consulting and Clinical Psychology*, 55, 542–549. <http://dx.doi.org/10.1037/0022-006X.55.4.542>
- Weisz, J. R., Weiss, B., Han, S. S., Granger, D. A., & Morton, T. (1995). Effects of psychotherapy with children and adolescents revisited: A meta-analysis of treatment outcome studies. *Psychological Bulletin*, 117, 450–468. <http://dx.doi.org/10.1037/0033-2909.117.3.450>

Received August 8, 2016

Revision received November 16, 2016

Accepted January 5, 2017 ■