

CHILD-CENTERED PLAY THERAPY IN THE SCHOOLS: REVIEW AND META-ANALYSIS

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The authors conducted a meta-analysis and systematic review that examined 23 studies evaluating the effectiveness of child centered play therapy (CCPT) conducted in elementary schools. Meta-analysis results were explored using a random effects model for mean difference and mean gain effect size estimates. Results revealed statistically significant effects for outcome constructs, including externalizing problems ($d = 0.34$), internalizing problems ($d = 0.21$), total problems ($d = 0.34$), self-efficacy ($d = 0.29$), academic ($d = 0.36$), and other behaviors ($d = 0.38$). Further, a systematic review was conducted on all studies compared with Outcome Research Coding Protocol criteria. Results indicated that CCPT studies provided quantitative support and qualitatively promising to strong evidence in support of its use in the schools. © 2014 Wiley Periodicals, Inc.

For more than a decade, mental health communities have highlighted the need for effective interventions for young children. The U.S. Department of Health and Human Services (1999) ignited alarm when it reported that one in five children suffered from a diagnosable mental, emotional, or behavioral disorder and about one in 10 children suffered from a serious emotional disturbance. The prevalence of mental health issues displayed by children permeated the school environment. The President's New Freedom Commission on Mental Health (2003) further emphasized the need for expansion of school mental health services by recommending screening, assessing, and providing services for young children in the school environment. However, it also underlined the necessary identification of empirically based mental health interventions.

The need for mental health services for children has even been termed a crisis in the United States (Committee on School Health, 2004; Mellin, 2009), and data suggest that if children obtain help, they are most likely to receive mental health services in the school setting (Foster, Rollefson, Doksum, Noonan, & Robinson, 2005; Rones & Hoagwood, 2000). The impending crisis brought together the American Counseling Association, American School Counselor Association, National Association of School Psychologists, and School Social Work Association of America (2006) who jointly called for interventions based on evidence to address the mental health needs of children in schools. The American Psychological Association Task Force on Evidence-Based Practice for Children and Adolescents was formed to promote evidence-based interventions in school psychological services (Kratochwill et al., 2012) and produced the *Procedural and Coding Manual for Review of Evidence-Based Interventions* (Task Force on Evidence-Based Interventions in School Psychology, 2003) intended to aid in the review of empirically based interventions.

Considering that mental health needs among children are a growing concern, and further considering the expanding mental health services utilized in schools through professionally contracted

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psychologists, counselors, counseling agencies, and social workers, there appears to be an avenue and necessity for delivering counseling approaches to children to meet their needs. However, school psychologists struggle to embrace evidence-based interventions in practice (Stark, Arora, & Funk, 2011). The question still remains regarding the types of counseling that are effective with young children and can be practically utilized in the school environment by school psychologists, school counselors or other mental health professionals.

CHILD CENTERED PLAY THERAPY

Child-centered play therapy (CCPT) is a mental health intervention that recognizes the relationship between counselor and child as the primary healing factor for children, ages 3 to 12 years, facing many types of challenges. CCPT is operationalized in several volumes of literature, all in agreement on its basic tenets and structure (Axline, 1947; Cochran, Nordling, & Cochran, 2010; Landreth, 2002; Ray, 2011; VanFleet, Sywulak, & Sniscak, 2010). Play therapists use a playroom with carefully selected toys to match the developmentally appropriate communication style of children, which is play, thereby supporting the message that the play therapist seeks to understand the whole child in the context of his or her world. By understanding and accepting the child's world, the play therapist offers the child an environment that unleashes the child's potential to move toward self-enhancing ways of being. The growth that children experience through CCPT typically results in reducing the child's relationally or physically harmful ways of interacting, as well as increasing the child's sense of self-responsibility toward behavior.

CCPT is based on the person-centered philosophy, marked by its trust in the innate tendency present in all individuals for growth-enhancing self-structure, emotions, and behaviors (Ray, 2011). Another primary concept is the belief in the child as a person who experiences the world in a uniquely conceptualized way and is fully capable of enacting change in one's self and in relationship to the environment. CCPT is tempered by the acceptance that when a child is placed under certain environmental structures or perceives the environment in an incongruent manner with the self, behaviors and emotions will contradict movement toward self-enhancement and healthy relationships with others. These person-centered tenets are formalized in such a way as to encourage the play therapist to act in a way that is consistent with these beliefs through the use of the self of the play therapist and structuring of the environment. When the play therapist provides an environment that is nonthreatening and sends a message of empowerment to the child, the child will emerge with a structure that is self-enhancing as well as positively influential on relationships. Axline (1949) concluded from her research in schools that CCPT allowed the child to overcome emotional limitations that hindered expression of intelligence and release the child to demonstrate full potential. Landreth (2002) claimed that the goal of CCPT in schools was to help children be emotionally prepared to benefit from the learning experiences that are offered.

There are specific types of responses that guide the play therapist's actions in CCPT. They include reflecting feelings (you feel angry), reflecting content (your mom was fighting with your dad), tracking behavior (you're moving to over there), facilitating decision-making (you can decide), facilitating creativity (that can be whatever you want), encouraging (you're trying hard on that), facilitating relationship (you want to make me feel better), and limit-setting (Axline, 1947; Ginott, 1961; Landreth, 2002; Ray, 2011).

CCPT is recognized as the most popular approach to play therapy in the United States (Lambert *et al.*, 2005) and enjoys a strong international reputation (see West, 1996; Wilson, Kendrick, & Ryan, 1992). Due to its long-standing history of literature and research, first published in the 1940s, CCPT offers evidence of effectiveness as well as clear guidelines for practice. Although many approaches

to play therapy have emerged over time, they are heavily influenced by the CCPT approach (Ray, 2011).

Bratton, Ray, Rhine, and Jones (2005) conducted a meta-analysis on play therapy outcome research reviewing 94 studies, including various approaches to play therapy. Bratton et al. reported a large effect size of 0.80, indicating that children receiving play therapy interventions performed 0.8 standard deviations above children who did not receive play therapy. Additionally, Bratton et al. found that nondirective humanistically based play therapy interventions such as CCPT produced a statistically significantly higher effect size than directive play therapy approaches. LeBlanc and Ritchie (2001) reported an effect size of 0.66 for play therapy after conducting a meta-analysis of 42 play therapy outcome studies including multiple approaches to play therapy.

Several recent CCPT research studies have been conducted in elementary schools establishing a consistent pattern of incorporating play therapy in the school setting (Fall, Balvanz, Johnson, & Nelson, 1999; Fall, Navelski, & Welch, 2002; Garza & Bratton, 2005; Ray, 2007; Ray, Blanco, Sullivan, & Holliman, 2009; Ray, Schottelkorb, & Tsai, 2007; Schottelkorb & Ray, 2009; Schumann, 2010). These studies resulted in positive outcomes regarding children's externalizing behaviors and relationships, specifically attention deficit hyperactivity disorder, aggression, and teacher-child relationships. Most recently, Blanco and Ray (2011) linked the outcome of CCPT to greater academic achievement for young children. After a thorough review of school play therapy research, Bratton (2010) concluded that play therapy is responsive to the developmental needs of children and has been successfully applied with diverse and at-risk populations in schools.

META-ANALYSIS ON SCHOOL INTERVENTIONS

Meta-analysis is a quantitative approach to summarizing results of empirical studies within the behavioral, social, and health sciences (Lipsey & Wilson, 2001). Whiston and Li (2011) proposed that meta-analysis can provide useful information regarding empirical support for specific types of treatment. When using meta-analysis for reviewing effectiveness of interventions, meta-analytic procedures can overcome weaknesses associated with individual studies, such as smaller sample sizes and conflicting findings, as well as address the issue of replication of results needed for the acceptance of interventions. Jenson, Clark, Kircher, and Kristjansson (2007) noted the importance of meta-analytic findings for selecting effective interventions for schools.

Recently, two research teams have conducted meta-analyses related to school mental health interventions. Whiston, Tai, Rahardja, and Eder (2011) attempted to quantitatively examine school counseling interventions, in both published and unpublished studies. They reported an overall weighted effect size of 0.30 when combining the results of 117 studies. Effect sizes for responsive services varied greatly but concluded with an overall effect size of 0.35, with an individual counseling effect size at 0.07 and small group counseling at 0.36. Whiston et al. suggested that researchers should focus on additional analyses of pretest-posttest outcomes in school mental health interventions.

Baskin et al. (2010) approached meta-analysis with the intent to examine support for counseling interventions in schools regarding questions important to counseling psychologists. After examining 107 studies, including 132 interventions, they reported an effect size of 0.45 across all treatments. Interventions for adolescents (effect size = 0.59) were found to be significantly greater than for children (effect size = 0.35). Researchers suggested that interventions focused on children need to be examined more closely.

The purpose of the current study was to provide a comprehensive review of the use of CCPT in elementary schools to guide school psychologists, counselors, administrators, and other school mental health professionals in decision-making regarding best practices in responsive services for specific outcomes. In summarizing quantitative data and evaluating rigor among CCPT school research, we hoped to explore evidence regarding the effectiveness of CCPT as a school mental

health intervention for behavioral, academic, and self-efficacy outcomes. To meet this goal, we identified all available research conducted using CCPT as an intervention in the school environment. We then selected research studies that met stringent experimental criteria for further review.

METHOD

Criteria for Inclusion

Studies for this review and meta-analysis were identified through electronic databases, including PsycInfo, ERIC, and ProQuest Dissertations and Theses. We also conducted a hard-copy search among journals that previously published play therapy studies, including *Psychology in the Schools*, *School Psychology Review*, *Journal of Counseling and Development*, *Professional School Counseling*, and *International Journal of Play Therapy*. We examined references from previous play therapy meta-analyses conducted by Bratton et al. (2005) and LeBlanc and Ritchie (2001). Both published and unpublished studies were identified for inclusion. The initial search produced 42 studies that utilized CCPT as an intervention in a quantitative research design in schools.

To be included for further review, studies had to meet the following criteria: (a) studies appeared in print between 1970 and 2011; (b) at least one experimental group utilized a clearly defined CCPT intervention; (c) the intervention was conducted in the school; (d) the CCPT intervention was conducted by a mental health professional (school counselor or other mental health professional); (e) participants were between pre-kindergarten and seventh grade; (f) participants had to be selected into treatment, control, or comparison groups by either random assignment or other quasi-experimental method; and (g) the study included data sufficient to calculate an effect size. We selected the age range of pre-kindergarten to seventh grade to include most national variations of elementary school populations, reaching children up to 12 years old. Based on the criteria, 19 studies were eliminated from further review. The 19 eliminated studies were exempt from further review mostly due to missing data ($n = 11$). Other exclusion criteria were that the intervention was not clearly CCPT ($n = 2$), there was no control or comparison group ($n = 3$), and the intervention was not delivered by a professional ($n = 3$). Twenty-three studies were included for further review and meta-analysis.

Coding Procedures

Because this study sought to conduct a systematic review and a meta-analysis, two coding procedures were adopted separately for each function. The first coding procedure conducted for the meta-analysis involved two team members, both counseling faculty members, who developed a coding manual to guide coding. The team members coded all studies independently based on the manual. Any discrepancies in coding were discussed until consensus was reached among the team. Coding manual variables included sample size, number of sessions, age, gender, ethnicity, publication year, type of publication (published or unpublished/dissertation), assignment to treatment (random or other), treatment integrity (protocol description and integrity check), play therapy provider (mental health professional or school counselor), delivery modality (group or individual), category of outcome construct, and statistical data on means and standard deviations for each construct. The characteristics of included studies are presented in Table 1.

The coding team collapsed outcome constructs into six categories, including internalizing, externalizing, total problems, self-efficacy, academic, and other. The terms “internalizing” and “externalizing” were grouped according to Achenbach (1966) as typical classifications of psychiatric problems measured in children. Internalizing is descriptive of problems within the self, such as anxiety, depression, withdrawal, and somatic symptoms. Externalizing is descriptive of child behavior that conflicts with other people, especially representative of behaviors that do not meet adult expectations of child behavior, specifically, rule-breaking and aggressive behaviors (Achenbach &

Table 1
 Characteristics of Included Studies

	<i>N</i>	Range	Mean
Total Sample	1106		
Sample Size		10–168	48
No. of Play Therapy Sessions		4–25	12
Age, years		4.0–13.0	
Gender (<i>n</i> = 20 studies reporting)			
Female	377 (36%)		
Male	665 (64%)		
Ethnicity (<i>n</i> = 20 studies reporting)			
African American	286 (32%)		
Caucasian	337 (37%)		
Hispanic	204 (23%)		
Asian American	15 (2%)		
Other	14 (2%)		
International	50 (6%)		
Decade of Publication	No. of Studies		
1970	2		
1980	4		
1990	4		
2000	11		
2010	2		
Publication			
Peer-Reviewed	16		
Book Chapter	1		
Dissertation	6		
Random Assignment			
Yes	19		
No	4		
Integrity			
Weak Protocol Description	1		
Strong Protocol Description	22		
Integrity Check	7		
Play Therapy Providers			
Mental Health Professionals	18		
School Counselors	5		
CCPT Modality			
Individual	13		
Group	10		

Note. *N* = 23.

Rescorla, 2001). The total problems category indicated that children were measured for both internalizing and externalizing behaviors. Self-efficacy included measurements for locus of control, self-esteem, and self-efficacy. Academic outcomes included reading and achievement. The “other” category encompassed measures that did not fit into the previous categories, including social skills, attitudes toward academia/school, and parent–child/teacher–child relationships.

For the systematic review, two team members reviewed the Outcome Research Coding Protocol: Coding Studies and Rating the Level of Evidence for the Causal Effect of an Intervention (ORCP;

Carey, Dimmett, Hatch, Lapan, & Whiston, 2008). The ORCP was developed by combining recommendations from the *Procedural and Coding Manual for Review of Evidence-Based Interventions* (Task Force on Evidence-Based Interventions in School Psychology, 2003) and *The Study Design and Implementation Assessment Device* (Valentine & Cooper, 2008). The protocol includes criteria for rating studies across seven domains: Domain 1: Measurement, Domain 2: Comparison Groups, Domain 3: Statistical Analysis of Outcome Variables, Domain 4: Implementation Fidelity, Domain 5: Replication, Domain 6: Ecological Validity, and Domain 7: Persistence of Effect. Measurement addresses the use of reliable and valid instruments for the study. Comparison Groups addresses the use of equivalent comparison groups for accurate intervention attribution. Statistical Analysis of Outcome Variables addresses the research study's attention to type 1 error and potency of the intervention. Implementation Fidelity addresses whether the intervention can be delivered with fidelity through implementation of manual or protocol procedures. Replication addresses whether the intervention has been independently examined with other equivalent populations. Ecological Validity addresses the generalizability of the intervention to public schools. Persistence of Effect addresses the lasting effect of the intervention on an outcome measure. Carey et al. (2008) provided minimal qualitative descriptors of criteria for promising and strong evidence under each domain. For the purposes of this study, the team members added the category of weak evidence for studies that did not appear to meet criteria for promising or strong evidence.

On the ORCP, the domains were intended to be rated based on an overall intervention, not on individual studies. Because the current review was not conducted by independent panel members but by the authors, we chose to rate each study according to each domain to provide information regarding the rigor and results of each study. We decided that Domain 5: Replication could not be rated for each study because of the global nature of the definition regarding implementation of one intervention across independent studies. The two team members provided an overall rating for the intervention for the Replication domain. For all other domains, each team member rated each study on each domain independently. Any discrepancies in ratings were reexamined until consensus was reached.

Meta-Analysis Procedures

In each of the studies, play therapy was a level in the independent variable, with a control group, comparison group, or both included in each study used. Additionally, each study analyzed one or more of the following dependent variables: (a) internalizing outcomes, (b) externalizing outcomes, (c) total problem behaviors, (d) self-efficacy, (e) academic outcomes, and (f) other. Although some studies evaluated more than one dependent variable through the use of multiple instruments, each study was used only one time for each dependent variable. If a study reported results for the same dependent variable on multiple measures, effect sizes were aggregated. Additionally we examined two between-subject effects: (a) CCPT to a control group (i.e., no intervention) and (b) CCPT to an alternative treatment condition (e.g., individual counseling, psychoeducation, etc.).

Homogeneity Analysis. A homogeneity analysis is used to evaluate whether or not the effect size measures estimate the same population (Lipsey & Wilson, 2001). The Q-statistic is used to evaluate homogeneity with the following formula:

$$Q = \sum (w \times ES^2) - \frac{[\sum (w \times ES)]^2}{\sum w},$$

where *ES* is the measure of effect size and *w* is the inverse variance weight. The inverse variance weight is used to gain a more accurate estimate of the effect of a study by weighting studies with larger sample size more than studies with smaller sample sizes (Lipsey & Wilson, 2001).

Calculation of Effect Size. To evaluate the studies included in the meta-analysis, Cohen's d was used as the standard measure of effect size for each study. Each study included in the meta-analysis (a) reported effect size as Cohen's d , (b) provided descriptive statistics to compute Cohen's d , or (c) reported analysis of variance results or utilized eta-squared for two or three groups. In these cases, eta-squared was either provided or calculated and converted to Cohen's f and then converted to Cohen's d using the following formula:

$$f = \sqrt{\frac{\eta^2}{1 - \eta^2}} \quad \text{and}$$

$$d = f\sqrt{2k},$$

where k is the number of groups in the analysis (Cohen, 1988).

Publication Bias. To address publication bias (i.e., the findings from unpublished research would impact the conclusions from the meta-analysis), a fail-safe N procedure (Rosenthal, 1991) was computed. Consistent with procedures from Erford, Savin-Murphy, and Butler (2010), a fail-safe N identifies the number of unpublished studies with an effect size of zero necessary to reduce the obtained mean effect size to 0.01. For each statistically significant result reported, we calculated the number of unpublished or previously unlocated studies with an effect size of zero necessary to lower the mean effect size to an insignificant effect size of 0.01.

RESULTS

Internalizing Outcomes as the Dependent Variable

Nine studies included internal processes as a dependent variable and compared play therapy intervention with a control or comparison group. The homogeneity analysis was not statistically significant, $Q(8) = 2.74, p > .05$, confirming that estimates of effect size may be generalized from the same population. The mean effect for internal processes across the nine studies was $d = .21$, 95% CI [.03, .39], indicating a small effect for children who received a play therapy intervention. A statistically significant difference was evident between children who received a play therapy intervention versus no therapeutic intervention, $z = 2.24, p < .05$. The fail-safe N was 189 studies.

Externalizing Outcomes as the Dependent Variable

Seven studies included external processes as a dependent variable and compared play therapy intervention with a control or comparison group. The homogeneity analysis was not statistically significant, $Q(6) = 2.16, p > .05$, confirming that estimates of effect size may be generalized from the same population. The mean effect for externalizing outcomes across the seven studies was $d = .34$, 95% CI [.10, .58], indicating a small to medium effect for children who received a play therapy intervention. A statistically significant difference was evident between children who received a play therapy intervention versus no therapeutic intervention, $z = 2.75, p < .05$. The fail-safe N was 231 studies.

Total Problem Behaviors

Twelve studies included the use of assessment batteries to measure problem behaviors as the dependent variable and were therefore labeled total problem behaviors. As with the previous analyses, play therapy intervention was compared with a control or comparison group. The homogeneity analysis was not statistically significant, $Q(11) = 19.03, p > .05$, confirming that estimates of effect size may be generalized from the same population. The mean effect for total problem behaviors

across the twelve studies was $d = .34$, 95% CI [.15, .53], indicating a small to medium effect for children who received the CCPT intervention. A statistically significant difference was evident between children who received the CCPT intervention versus no therapeutic intervention, $z = 3.55$, $p < .05$. The fail-safe N was 396 studies.

Self-Efficacy as the Dependent Variable

Nine studies included external processes as a dependent variable and compared the CCPT intervention with a control or comparison group. The homogeneity analysis was not statistically significant, $Q(8) = 6.91$, $p > .05$, confirming that estimates of effect size may be generalized from the same population. The mean effect for self-efficacy outcomes across the nine studies was $d = .29$, 95% CI [.13, .46], indicating a small effect for children who received the CCPT intervention. A statistically significant difference was evident between children who received the CCPT intervention versus no therapeutic intervention, $z = 3.47$, $p < .05$. The fail-safe N was 252 studies.

Academic Outcomes as the Dependent Variable

Six studies included the use of achievement tests as the dependent variable and were therefore labeled academic issues. As with the previous analyses, the CCPT intervention was compared with a control or comparison group. The homogeneity analysis was not statistically significant, $Q(5) = 9.24$, $p > .05$, confirming that estimates of effect size may be generalized from the same population. The mean effect for academic issues across the six studies was $d = .36$, 95% CI [.05, .67], indicating a small to medium effect for children who received the CCPT intervention. A statistically significant difference was evident between children who received the CCPT intervention versus no therapeutic intervention, $z = 2.28$, $p < .05$. The fail-safe N was 210 studies.

Other Outcome Measures

Four studies included measures for social skills, attitude toward school, and teacher–child relationship that did not theoretically fit into the previous categories and were therefore compiled as *other outcome measures*. The homogeneity analysis was not statistically significant, $Q(3) = 6.32$, $p > .05$, confirming that estimates of effect size may be generalized from the same population. The mean effect for other outcome measures across the four studies was $d = .38$, 95% CI [.07, .69], indicating a small to medium effect for children who received the CCPT intervention. A statistically significant difference was evident between children who received the CCPT intervention versus no therapeutic intervention, $z = 2.44$, $p < .05$. The fail-safe N was 148 studies.

CCPT Intervention Compared with a Control Group Only

Eighteen studies compared participants who received the CCPT intervention with a control group (i.e., no intervention). Due to the fact that global effect sizes were used for each study, homogeneity analyses were not conducted. The mean effect for the CCPT intervention compared with a control group was $d = .38$, 95% CI [.24, .52], indicating a small to medium effect for children who received the CCPT intervention. A statistically significant difference was evident between children who received the CCPT intervention versus no therapeutic intervention, $z = 5.21$, $p < .05$. The fail-safe N was 666 studies.

CCPT Intervention Compared with a Comparison Group

Nine studies compared participants who received the CCPT intervention with a comparison treatment group (i.e., separate intervention). Due to the fact that global effect sizes were used for each study, homogeneity analyses were not conducted. The mean effect for the CCPT intervention

compared with a control group was $d = .20$, 95% CI $[-.02, .42]$, indicating a small effect for children who received the CCPT intervention. No statistically significant difference was evident between children who received the CCPT intervention versus a separate intervention, $z = 1.81$, $p > .05$. The fail-safe N was 171 studies.

Systematic Review Results

Studies were coded according to the ORCP by two team members independently, and all discrepancies were discussed until consensus was reached. One of the ORCP's seven domains, Domain 5: Replication, was not used for ratings of each study because of its global definition. Due to the replication of a well-defined CCPT intervention across 23 studies conducted in schools, both team members rated Domain 5: Replication, as demonstrating strong evidence.

Across the other six domains, all 23 studies ranged from 2.0 to 2.7 for individual study means and from 1.09 to 3 on mean domain ratings (see Table 2). The mean for all studies combined was 2.4, rating between promising and strong qualitative evidence. The studies were rated particularly strong in evidence regarding Domain 1: Measurement, which was scored at 3.

Each of the 23 studies utilized instruments that demonstrated a history of reasonable validity and reliability and also measured constructs relevant to school outcomes. Domain 2: Comparison Groups, Domain 4: Implementation Fidelity, and Domain 6: Ecological Validity were also rated highly overall, 2.8, 2.26, and 2.65, respectively. All studies used comparison groups, which were equated through random assignment or other procedures. Implementation fidelity was enhanced by the detailed description provided in most studies regarding CCPT procedures, and seven studies further utilized fidelity checks on intervention protocol.

Ecological validity was supported through diversity of settings, all public schools, in which most studies were conducted. Domain 3: Statistical Analysis of Outcome Variables, producing a mean rating of 2.26, yielded varied ratings mostly due to small sample sizes used in analysis. Four studies were rated as providing weak evidence: two used extremely small sample sizes for analysis and two yielded negligible results on the effectiveness of the CCPT intervention. Of the 23 studies, Domain 7: Persistence of Effect was rated most negatively, with 1.09. Only one study included a follow-up measure.

DISCUSSION

The importance of identifying empirically based interventions for elementary-age children is critical to counseling work in the schools (Committee on School Health, 2004; New Freedom Commission on Mental Health, 2003). Given that children's mental health is a growing crisis in the United States, the need for intervention is apparent. Kratochwill et al. (2012) encouraged school psychologists to embrace practice-based research evidence in the schools. The specific aim of this study was to determine how effective CCPT is in helping reduce problematic behaviors or characteristics of children at elementary age. We sought to provide evidence to help school mental health professionals determine whether CCPT would serve as an effective responsive service in an overall comprehensive developmental guidance program.

Results of meta-analysis suggest that CCPT is an effective intervention used in elementary schools. Effect sizes indicate that children participating in CCPT across 23 studies improved problematic behaviors or characteristics at a statistically significant level compared with their peers who received no intervention. Effect sizes ranged from 0.21 to 0.38, with internalizing at 0.21, externalizing at 0.34, total problems at 0.34, self-efficacy at 0.29, academic at 0.36, and other problems at 0.38. Compared with control conditions, children participating in CCPT performed at 0.38 standard

Table 2
Study Review Results Using Outcome Research Coding Protocol

Study	Sample Size	Random Assignment	Protocol Adherence	Experimental Groups	Measures	Presenting Problem	Domain 1: Measures	Domain 2: Comparison Groups	Domain 3: Statistical Analysis	Domain 4: Implementation Fidelity	Domain 6: Ecological Validity	Domain 7: Persistence of Effect	Overall Mean Rating
Amplo (1980)	78	Yes	Yes	3 T, 1 W	VSMS, CBRS	Social immaturity	3	3	3	3	2	1	2.5
Crow (1989)	22	No	No	1 T, 1 W	GMRT, P-H, IAR	Low Reading Achievement	3	2	2	2	3	1	2.2
Fall, Naveleski, & Welch (2002)	66	Yes	No	1 T, 1 W	S-ES, CTRS	Special Education Services	3	3	1	2	2	1	2.2
Fall, Balvanz, Johnson, & Nelson (1999)	62	Yes	No	1 T, 1 W	S-ES, CTRS	Poor Learning Behaviors & Poor Self-Efficacy	3	3	2	2	2	1	2.2
Flahive & Ray (2007)	56	Yes	No	1 T, 1 W	BASC-TRF, BASC-PRF, BASC-SRP	Emotional and Behavioral Problems	3	3	3	2	3	1	2.5
Garza & Bratton (2005)	29	Yes	Yes	2 T	BASC-PRS, BASC-TRS	Behavioral Problems	3	3	3	3	3	1	2.7
Gaulden (1975)	45	Yes	No	2 T, 1 W	DEBRS, BATSI, TS-CS	Disruptive Classroom Behavior	3	3	2	2	2	3	2.5
Gould (1980)	80	Yes	No	2T, 1 W	P-H	Negative Behavior	3	3	2	2	2	1	2.2
Kaplewicz (1999)	40	Yes	Yes	2T, 1 W	BASC-TRS, BASC-PRS	Low Reading Achievement	3	3	2	3	2	1	2.3
Lopez (2000)	30	Yes	No	1 T, 1 W	GMRT, JPPSCST, CBCL-TRF, WRMT	Reading Achievement	3	3	1	2	3	1	2.2
Moulin (1970)	24	Yes	No	1 T, 1 W	CSFTMM, CAT, ITPA	Underachievement	3	3	2	2	2	1	2.2
Packman & Bratton (2003)	30	Yes	No	1 T, 1 W	BASC-PRF, CBCL-PRF	Behavior Problems	3	3	2	2	2	1	2.2
Post (1999)	168	Yes	No	1 T, 1 W	CS-EI, IARS-R, S-TAIC	Poor Self-Esteem, Behavior Problems, & Anxiety	3	3	2	2	3	1	2.3
Raman & Kapur (1999)	10	No	No	1 T, 1 W	RCBQ, RCPT	Emotional Disorder	3	2	1	2	3	1	2

(Continued)

Table 2
Continued

Study	Sample Size	Random Assignment	Protocol Adherence	Experimental Groups	Measures	Presenting Problem	Domain 1: Measures	Domain 2: Comparison Groups	Domain 3: Statistical Analysis	Domain 4: Implementation Fidelity	Domain 6: Ecological Validity	Domain 7: Persistence of Effect	Overall Mean Rating
Schumann (2010)	37	Yes	No	2T	BASC-TRS, CBCL-TRF	Aggressive Behavior	3	3	3	2	3	1	2.5
Shashi, Kapur, & Subbakrishna (1999)	10	Yes	No	1 T, 1 W	CBQ, DPCL, CBCL, SRCL	Emotional Disorder	3	3	1	2	3	1	2.2
Shen (2002)	30	Yes	No	1 T, 1 W	CMHC, FPC, RCMAS, MDI-C	Trauma, Anxiety & Depression	3	3	3	1	3	1	2.3
Ray, Schottelkorb, & Tsai (2007)	60	Yes	Yes	2T	CTRS-R:S	Attention Deficit Hyperactivity Disorder	3	3	3	3	3	1	2.7
Ray, Bianco, Sullivan, & Holliman (2009)	42	No	Yes	1 T, 1 W	CBCL-TRF	Aggressive Behavior	3	2	3	3	3	1	2.5
Danger & Landreth (2005)	21	Yes	No	1 T, 1 W	GFTA, PPVT-R, CELF-3, BBR5	Speech Difficulties	3	3	3	2	3	1	2.5
Ray (2007)	93	Yes	Yes	3T	ITS	Teacher-Child Relationship Stress	3	3	2	3	3	1	2.5
Shen & Armstrong (2008)	37	No	No	1 T, 1 W	SPPC	Low Self-Esteem	3	2	3	2	3	1	2.3
Bianco & Ray (2011)	43	Yes	Yes	1 T, 1 W	YCAT, PSPCSAYC, STRS	Academically At Risk	3	3	3	3	3	1	2.7
Mean Rating							3	2.8	2.26	2.26	2.65	1.09	2.4

Note. *Experimental Groups*: T = treatment group; W = waitlist control. *Measures*: VSMS = Vineland Social Maturity Scale; CBRS = Child Behavior Rating Scale; GMRT = Gates-MacGinzie Reading Test; P-H = Piers-Harris Children's Self-Concept Inventory; IAR = Intellectual Achievement Responsibility Questionnaire; SES = Self-Efficacy Scale for Children; CTRS = Conners' Teacher Rating Scale; BASC-TRF = Behavior Assessment System for Children-Teacher Report Form; BASC-PRF = Behavior Assessment for Children-Parent Report Form; BASC-SRP = Behavior Assessment for Children-Self-Report of Personality; DESBRS = Devereux Elementary School Behavior Rating Scale; BMSI = Beere's Attitude Toward School Instrument; TS-CS = Thomas Self-Concept Scale; JPPSCST = Joseph Pre-School Primary Self-Concept Test; CBCL-TRF = Child Behavior Checklist Teacher Report Form; WRMT = Woodcock Reading Mastery Test; CSFTMM = California Short-Form Test of Mental Maturity; CAT = California Achievement Test; FPA = Illinois Test of Psycholinguistic Abilities; CBCL-PRF = Child Behavior Checklist-Parent Report Form; CS-El = Coopersmith Self-Esteem Inventory; IARS-R = Intellectual Achievement Responsibility Scale-Revised; S-TAIC = State-Trait Anxiety Inventory for Children; RCBO = Rutter's Child Behavior Questionnaire; RCPT = Raven's Controlled Projection Test; CBQ = Child Behavior Questionnaire; DPCL = Developmental Psychopathology Checklist for Parents; CBCL = Revised Child Behavior Checklist; SRCL = Symptom Reading Checklist; CMHC = Children's Mental Health Checklist; FPC = Filial Problem Checklist; RCMAS = Revised Children's Manifest Anxiety Scale; MDI-C = Multiscore Depression Inventory for Children; CTRS-R:S = Conners Teacher Rating Scale-Revised; Short Form; GFTA = Goldman-Fristoe Test of Articulation; PPVT-R = Peabody Picture Vocabulary Test-Revised; CELF-3 = Clinical Evaluation of Language Fundamentals Third Edition; BBR5 = Burks' Behavior Rating Scale; ITS = Index of Teaching Stress; SPPC = Hartar's Self-Perception Profile for Children; Young Children's Achievement Test; PSPCSAYC = Pictorial Scale of Perceived Competence and Social Acceptance for Young Children; STRS = Student-Teacher Relationship Scale. *Domain ratings*: 1 = weak evidence; 2 = promising evidence; 3 = strong evidence.

deviations over their peers. When compared to alternative interventions, children participating in CCPT performed 0.20 standard deviations over their peers.

In addition, systematic review comparing CCPT studies with criteria provided in OCRP (Carey et al., 2008) resulted in a mean rating of 2.4, indicating that CCPT studies demonstrated qualitatively promising to strong evidence in support of the intervention. Even though studies were conducted stringently and outcome was mostly positive as concluded through the review of the majority of quality domains, the lack of follow-up in school CCPT studies suppressed the overall systematic rating. Studies tended to provide strong evidence regarding the use of standardized measurements, experimental design, and generalizability to a real population, as well as strong support in individual study statistical results.

Study Characteristics

This review sought to summarize characteristics typical of studies conducted on CCPT in schools. Most studies concentrated on a young population between the ages of 5 and 10 years old. However, a few expanded age criteria to 4-year-olds and children older than 10 years old. Males were over-represented, making up 64% of the samples, which is consistent with previous mental health interventions conducted with children. Males are typically overidentified due to the externalized nature of their problem behaviors. Interestingly, samples for CCPT studies included a diversity of children from different ethnic backgrounds. Caucasian children made up the majority of subjects (37%) but children who identified as African American (32%) and Hispanic (23%) were well represented. Such diversity in CCPT study samples supports the conclusion that CCPT can be used with a variety of children from diverse backgrounds. The inclusion of diversity also indicates that CCPT researchers are highly sensitive to the need for intervention for children from various cultures.

The number of CCPT sessions is often a topic of discussion among mental health professionals, with some counselors assuming that children must participate in many sessions of CCPT before positive results are achieved. However, the range of sessions provided in study interventions was four to 25 sessions, with a mean of 12. Statistically significant results were demonstrated with a mean of 12 sessions, typically provided in 30-minute periods, indicating that CCPT can be used as a short-term intervention in the schools. Both Bratton et al. (2005) and LeBlanc and Ritchie (2001) reported that optimal results were reached at about 30 to 40 sessions. Although it might be true that CCPT reaches peak effects at a higher number of sessions, our results indicate that change was demonstrable across studies with considerably fewer numbers of sessions (four to 25; mean = 12). Additionally, of the 23 studies, 13 provided CCPT individually and 10 provided CCPT in small groups. The modality of CCPT appeared to demonstrate no differences in outcomes of the studies.

Overall, the studies appeared to demonstrate rigorous control features, with 19 utilizing random assignment of subjects and four utilizing some form of statistical or matching procedure to address equality of groups. Twenty-two of the studies provided a strong description of the CCPT protocol, with seven of those adding additional integrity check features to control for protocol drift. Such attention to detail may be explained by the decade of publication, with the majority of studies conducted from 2000 to 2010. As the mental health profession has demanded stringent rigor for research conducted in the arena of evidence-based practice, it appears that CCPT has attempted to provide rigorous controls for internal and external threats to validity. We also attempted to address publication bias by searching for both peer-reviewed and non-peer-reviewed publications. The final analysis consisted of 16 (70%) peer-reviewed studies and seven (30%) non-peer-reviewed or unpublished studies.

Outcome Constructs

Regarding meta-analytic effect size findings, CCPT demonstrated statistically significant differences over no intervention, supporting the use of CCPT in the schools. This is the first step in demonstrating the effectiveness of an intervention. Furthermore, meta-analysis provides effect sizes to make comparisons between groups and is reported in standard deviations. Some historical meta-analyses have reported mental health interventions with large effect sizes by calculating mean score differences at the posttest between experimental and control or comparison groups and either pooled standard deviations or control group deviations.

In addition, meta-analyses have also reported a single effect size for each study, thereby pooling diverse and multiple outcome constructs into one single number. These methods have resulted in medium to large effect sizes, such as 0.71 in Casey and Berman's (1985) meta-analysis on psychotherapeutic interventions for children, 0.54 in Weisz, Weiss, Han, Granger, and Morton's (1995) meta-analysis on the treatment of children and adolescents, and 0.8 in Bratton et al.'s (2005) meta-analysis on play therapy. In an attempt to apply stringent standards to meta-analysis, we chose not to report one effect size per study; instead, we only compared similar outcome constructs among studies. This method avoided the apples to oranges comparisons that are common in meta-analyses. For example, in studies that report one effect size per study, self-esteem outcomes may be mixed with externalizing outcomes, resulting in a lack of ability to interpret a meaningful outcome. In addition, we calculated between-group differences of mean score changes from pretest to posttest divided by the pretest pooled standard deviation. This calculation allowed for the consideration of both pretest and posttest scores, most likely concluding in more conservative outcomes.

Our methods and outcomes are similar to recent published meta-analyses reviewing psychological interventions in the schools. Whiston et al. (2011) found that very few studies focused on individual counseling interventions in the schools ($n = 6$) and pooling together those studies resulted in an effect size of 0.07. Baskin et al. (2010) reported an effect size of 0.35 for studies ($n = 74$) using counseling interventions with children in schools. In reviewing social work interventions in the schools from 1980 to 2007, Franklin, Kim, and Tripodi (2009) found a 0.23 effect size for externalizing problems and 0.40 for internalizing problems. In Kim's (2008) meta-analysis on solution-focused brief therapy (SBFT) including 22 studies and using methods very similar to those used in the current study, SBFT was found to have no statistically significant different effect on externalizing behaviors with children ($d = 0.13$ – 0.26), but a statistically significant different effect on internalizing behaviors of 0.26 (range = 0.05–0.47). SBFT demonstrated a statistically significant effect on outcomes related to family and relationship problems, with an effect size of 0.26. Kim hypothesized that studies conducted in real-world settings yield smaller effect sizes. Hence, it is also possible that due to comorbidity of multiple symptoms affecting impairment present in most children served through the school setting, effect sizes for specific outcomes would be limited.

In the current study, academic outcomes yielded the largest specific effect size ($d = 0.36$). Academic outcomes included reading ability as well as general academic achievement, as measured by specific academic scales typically scored by education professionals. Hoagwood, Olin, Kerker, Kratochwill, Crowe, and Saka (2007) cited the lack of studies using academic functioning outcomes as a concern in school-based research. However, the current meta-analysis included six CCPT studies that explored academic functioning as an outcome of interest. The positive results in the area of academic functioning appears to support Axline's (1949) hypothesis that CCPT releases a child from emotional limitations hindering the child from performing at full potential in learning endeavors. Clearly, CCPT did not directly address the child's reading ability or other academic subjects. By offering the child an environment in which he or she could feel fully understood and accepted, work through those emotional issues that served as limitations, and develop more self-enhancing coping

skills, the child is able to fully engage in the learning environment, unhindered by extreme emotional conflict.

Externalizing and total problems both resulted in a 0.34 effect size. By participating in CCPT, children were able to develop behaviors toward the environment that were more beneficial to themselves and others. The substantial reduction in externalizing problem behaviors, along with a measurable reduction in internalizing behaviors, most likely led to a notable effect size for total problems. The lesser demonstrated effect of CCPT on internalizing problems may be related to challenges regarding the identification, assessment, and comorbidity related to child development and internalizing disorders (Zahn-Waxler, Klimes-Dougan, & Slattery, 2000). Although internalizing problem behaviors were reduced to a lesser degree at 0.21, the result was still statistically significant, indicating that CCPT demonstrates a noticeable difference on both internalizing and externalizing problem behaviors.

Self-efficacy of children was also affected by CCPT at a statistically significant level, with an effect size of 0.29. Not surprisingly, CCPT seems to impact a child's view of the self as capable and responsible. Finally, the largest effect size was in the other category ($d = 0.38$). The other category included relationship measures with teachers, attitude measures, and social skills. Because the other category was a mixed category, it is harder to interpret the meaning of this effect size. However, it can be surmised that the impact of CCPT may extend to variables that may not be regularly studied in the schools.

Limitations

The results of meta-analyses are only as strong as the individual studies that are included. For this reason, we chose to conduct a systematic review in addition to the meta-analysis to fully explore the reliability and validity of the individual school CCPT studies. Although we attempted to address or control for problems within individual studies, a few studies demonstrated weaker methods, such as failing to report sample gender ($n = 3$), failing to report sample ethnicity ($n = 3$), describing CCPT protocol weakly ($n = 1$), or not utilizing random assignment ($n = 4$). We chose to include these few studies because their merits and methods seemed to overcome their limitations under further scrutiny.

One clear limitation of the studies when placed under rigorous review was the lack of employing follow-up measures to assess the long-term effects of CCPT. Although only a minority of counseling intervention studies utilize a follow-up design, it became clear that CCPT studies have neglected to consider the long-term effects of intervention. We highly recommend that future studies initiate the use of follow-up measures for the purpose of exploring the lasting effect of CCPT. Evidence of the long-term impact of CCPT will enable school mental health professionals to make more well-informed decisions regarding its use.

Finally, in comparing children who participated in CCPT with children who received no treatment, a statistically significant difference was found, with a small to medium effect size of 0.38. However, when compared with a comparison intervention group, there was no statistically significant difference, but it should be noted that children who participated in CCPT performed 0.20 standard deviations above those participating in other interventions. This effect size demonstrates that CCPT participants overall performed better than did those children who received other interventions.

Implications

CCPT is designed to provide an intervention for children who are experiencing a variety of presenting problems and symptoms. In CCPT, the play therapist focuses on providing the child with an environment in which the child will release emotional limitations on potential and engage in ways

of thinking, feeling, and acting that are self-enhancing. Because schools are settings for children who arrive from complicated backgrounds and with varying levels of impairment, CCPT can be especially relevant as an intervention that can be utilized by the school mental health professional to address a diversity of children and a diversity of issues. This meta-analysis and review suggests that CCPT is an effective intervention in the real-world setting of elementary schools. When reviewing the literature, results of this study indicate that CCPT may produce effects in externalizing problem behaviors and academic gains beyond those interventions typically accepted in schools, such as solution-focused therapy (Kim, 2008). Another advantage over other interventions is that CCPT is intended to intervene at much younger developmental levels, thereby positioning it as favorable for the early grades of elementary school.

Kratochwill et al. (2012) discussed the challenges faced by school psychologists in adopting evidence-based practices that are impractical in the school setting. CCPT researchers have worked to offer an intervention that fits within the scope of the school setting, as well as a practical intervention that can be offered for 30 minutes once a week or more intensively to complement a school psychologist's schedule. In addition, CCPT can be used as a brief intervention for children, as demonstrated by the findings from this study resulting from a mean of 12 sessions, with studies that utilized as few sessions as four and no study employing more than 25 sessions. Researchers were particularly sensitive to studying the effects of CCPT with diverse populations, resulting in demonstrating positive effects across three majority populations, as well as a few international populations.

Results regarding effect sizes, rigor of review, practicality of session number and length, and diversity of samples support the use of CCPT in elementary schools by school mental health professionals. However, long-term effects of CCPT have yet to be studied, and this is a crucial missing piece of the literature. School mental health professionals are encouraged to consider empirical support for interventions utilized in the schools. Results of this study indicate that CCPT may serve as a viable and effective responsive service for those elementary school children in need of mental health intervention. CCPT may improve a child's learning abilities at school, help alleviate problem behaviors with others, and increase overall well-being regarding mood and self-concept problems.

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