

Predictors and Correlates of Homework Completion and Treatment Outcomes in Parent–Child Interaction Therapy

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Abstract

Background Behavioral parent training has been demonstrated to be an effective treatment for child behavior problems; however, lack of parent engagement can limit the effectiveness of treatment. Understanding more about predictors and correlates of a specific measure of parent engagement—homework completion—in parent training can help to improve treatment effectiveness and treatment outcomes.

Objective We examined predictors of homework completion, as well as the relationship between homework completion, treatment correlates, and treatment outcomes in an open trial of parent–child interaction therapy (PCIT), a behavioral parent training program.

Methods Participants included 53 families (mean child age = 4.40 years, SD = 1.43) who received PCIT in a community mental health center serving demographically (i.e., SES, ethnicity) diverse families.

Results Homework completion varied significantly between mothers and fathers but did not vary with other demographic family characteristics. Parents who completed treatment showed a somewhat greater likelihood of completing homework throughout treatment and a significantly greater likelihood of completing homework during the first phase of treatment. Additionally, parents who completed more homework were more likely to report higher levels of treatment satisfaction and showed a trend toward completing treatment in fewer sessions.

Conclusions Our findings suggest that homework has some benefits for treatment outcomes. Despite the benefits of homework, rates of adherence to homework were variable and below optimal levels. Study findings have implications for further understanding the role of homework in behavioral parent training programs.

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Introduction

Behavioral parent training has been demonstrated to be an effective treatment for child behavior problems (e.g. Eyberg et al. 2008; Kaminski et al. 2008). However, treatment outcomes of behavioral parent training programs, as well as child interventions more generally, can be limited by problems with parent engagement (Chacko et al. 2009; Lindsey et al. 2014; Staudt 2007). Engagement challenges are more likely and debilitating when treatments are implemented in community settings where parents experience a greater number of stressors that can interfere with engagement (Baker-Ericzén et al. 2010). To address these issues, recent research has focused on defining and exploring problems with engaging parents in treatment, as well as testing interventions to improve parent engagement (e.g. Haine-Schlagel and Walsh 2015). Understanding more about predictors and correlates of parent engagement in parent training is important to help improve treatment effectiveness and treatment outcomes (Chacko et al. 2012; Ingoldsby 2010).

One commonly used behavioral indicator of treatment engagement in parent training programs is homework completion (Staudt 2007). Homework has been defined as tasks assigned to clients to promote skill acquisition between treatment sessions by reinforcing key concepts and skills included in treatment (Chacko et al. 2013; Dozois 2010; Kazantzis et al. 2005). Nock and Ferriter (2005, p. 151) conceptualized homework completion as a part of treatment adherence, defined as “active, voluntary, collaborative involvement of the patient in a mutually acceptable course of behavior to produce a desired preventative or therapeutic result.” Haine-Schlagel and Walsh (2015) identified homework completion as one index of parent *participation* engagement (along with activities such as sharing opinions, asking questions, or taking part in role plays). Meta-analytic reviews of the relationship between homework and treatment outcomes have found the use of homework assignments in cognitive-behavioral therapy to be associated with better treatment outcomes, and greater adherence to homework has been found to be predictive of better treatment outcomes (Kazantzis et al. 2000, 2010; Mausbach et al. 2010). Homework is a standard component of several evidence-based parent training programs for young children with aggressive and defiant behaviors, including Helping the Noncompliant Child (Forehand and McMahon 1981), the Incredible Years Training Series (Reid and Webster-Stratton 2001), and parent–child interaction therapy (PCIT) (Eyberg and Matarazzo 1980; Zisser and Eyberg 2010).

Homework in Parent Training Programs

Several parent training studies have found that homework completion is associated with better outcomes for children with externalizing behavior disorders. Studies reporting on the effects of group-based parent training programs found that parents who completed more homework reported greater improvements in their child’s behavior problems than parents who completed less homework (Kling et al. 2010; Tynan et al. 1999, 2004). A study of the Incredible Years program found that parents who were more engaged in treatment, which

included completing more homework, demonstrated greater improvements in parenting skills and greater reductions in child conduct problems post-treatment (Baydar et al. 2003; Reid et al. 2004).

Conversely, Kaminski et al.'s (2008) meta-analysis found parent training programs with a homework component did not have significantly better outcomes than programs without a homework component. One possible explanation for this finding is that, as described further below, homework completion is often cited as a difficult component of treatment to enforce. Kaminski and colleagues did not report rates of homework completion within studies, only whether homework was a component of treatment, and many programs that require homework do not report homework completion rates. The effect of homework on programs examined in the meta-analysis may have been obscured because participants varied in their completion of homework. Relatively low rates of homework completion may make it more difficult to detect the effect of homework on outcomes. If parents do not complete homework, the fact that it was assigned may not affect overall treatment outcomes.

Therapists often cite homework as a difficult element of parent training programs for clients to follow and for therapists to promote (Christian et al. 2014). Helbig and Fehm (2004) found that cognitive-behavioral therapists reported problems with homework adherence in over half of their cases. Parents often struggle to complete homework in parent training programs, with studies reporting rates of homework completion around 50 % or less (e.g. Chacko et al. 2009; Fabiano et al. 2009). In a study of parent-reported reasons for not completing homework assigned during a parent training program, Chacko et al. (2013) found that parents most often reported they forgot to do homework, did not have enough time to do homework, or found homework too difficult to implement. Given evidence supporting the benefits of homework completion in parent training programs and the widespread problems with parents' adherence to homework, further research is needed to evaluate the role of homework in treatment outcomes. This research may provide insights into how therapists can augment parental homework adherence and improve parent engagement in treatment.

PCIT and Homework

PCIT is an evidence-based, individual parent training model that is based on attachment and social learning theory (Eyberg and Funderburk 2011; Zisser and Eyberg 2010). PCIT targets children with disruptive behaviors between the ages of two and seven and is composed of two treatment phases. The goal of the Child-Directed Interaction (CDI) phase is to teach parents skills focused on improving parent communication and increasing parental responsiveness to enhance the parent-child relationship. The Parent-Directed Interaction (PDI) phase focuses on improving parents' discipline skills and strategies to reduce negative child behaviors. During PCIT, parents are asked to complete daily homework assignments and turn in homework data sheets at weekly sessions. In each session, the PCIT therapist reviews homework sheets and discusses any noted problems during homework. During the first phase of PCIT (CDI), parents are assigned 5 min of daily homework, in which the child takes the lead in the play and parents practice their CDI skills. In the second phase (PDI), parents are asked to continue CDI homework and add PDI homework, which consists of giving direct commands and following through with positive attention or timeout, depending on child compliance. Whereas the format of CDI

homework remains the same throughout treatment, the length and context of homework during PDI change as treatment proceeds. Initially, homework consists of practicing PDI skills for 10 min after the 5-min CDI play session. Later in PDI, homework assignments shift to practicing skills during clean-up and then recording the use of commands and follow-up procedures throughout the day.

Homework is considered an important element of PCIT (McNeil and Hembree-Kigin 2010), yet little research on homework in PCIT has been published. In a pilot study, Lyon and Budd (2010) found that families who dropped out of treatment were less likely to complete homework during the CDI phase than treatment completers. Tiano et al. (2013) asked a community sample of parents with male children ages 2–7 to read a vignette about PCIT and rate the acceptability of different aspects of PCIT treatment, including the completion of daily homework assignments. They found that female parents and younger parents had more positive attitudes toward homework assignments, but they found no associations with child age or socioeconomic status. An unpublished thesis examining homework completion in PCIT found that CDI homework completion during both the CDI and PDI phases of treatment predicted post-treatment attachment security but did not predict post-treatment levels of child externalizing behavior or length of treatment (Schoenfield 2004). A few studies have reported on rates of homework completion in PCIT, with a mean range of 39.1–62.7 % for CDI homework and 47.4–77 % for PDI homework (Berkovits et al. 2010; Lyon and Budd 2010).

Factors Associated with Homework Completion

Although the literature is mixed on the impact of demographic factors on treatment outcomes in child therapy, meta-analytic reviews evaluating predictors of parent training efficacy have found that demographic variables, including lower family income and education, predicted less successful treatment outcomes (e.g. Lundahl et al. 2006; Reyno and McGrath 2006). Families dealing with many stressors may find it more difficult to complete homework assignments, and thus factors such as family income and parents' level of education may be related to homework completion rates. We found only one study that reported on associations between demographic factors and homework completion in parent training. Nix et al. (2009) examined predictors of participation quality, a construct that included homework completion, in a group-based parent management training. They found that both parent education and parent occupation were uniquely related to the quality of parent participation, but that other demographic factors, including parent race and age, were not. Most studies with adult samples have found no relationship between demographic variables and homework completion (Bryant et al. 1999; Carroll et al. 2005), although Helbig and Fehm (2004), in a retrospective survey of cognitive-behavioral therapists about their patients, found that homework compliance was related to patient gender, with males being less likely to complete homework assignments.

Premature dropout presents a challenge for implementing parent training programs in outpatient child treatment, where attrition has been reported in the range of 40–60 % (Harpaz-Rotem et al. 2004; Wierzbicki and Pekarik 1993). Parents who are less engaged in treatment are more likely to drop out of treatment, and homework completion is one behavioral indicator of treatment engagement (Staudt 2007). Prinz and Miller (1994) found that families who dropped out of treatment completed less homework than families who completed treatment. Homework has also been shown to be related to the number of

sessions parents attended and to their participation in discussions in treatment groups (Reid et al. 2004).

Little is known about patterns of homework completion over time. Chacko et al. (2012) found that homework completion at each session varied significantly and did not find a change in homework completion over time in their comparison of two parent training programs. Conversely, in a comparison of two training programs for residential staff working with people with developmental disabilities, Cunningham et al. (1993) found that homework completion decreased significantly over time for the group that received didactic instructions compared to a relatively stable pattern of homework for the group that received a more facilitative, problem-solving training approach. Cunningham et al. (1993) hypothesized that the didactic training may have engendered more resistance from residential staff than a facilitative approach that engaged staff in problem-solving. Similarly, Högström et al. (2015) found that homework assignments introduced earlier in the program (strategies to promote positive child behavior) were completed more frequently than homework assignments introduced later in the program (discipline-focused strategies) for an internet-based parent management training program. Taken together, these studies suggest the value of examining patterns of homework compliance across the course of treatment.

Parental perceptions and expectations of treatment may also affect homework completion in parent training. For example, Nock and Kazdin (2001) found that parent expectancies were a significant predictor of treatment participation. This finding suggests that parents who have positive expectations and perceptions of treatment (e.g. higher levels of treatment satisfaction) may be more likely to complete homework on a regular basis than parents who have less positive perceptions of treatment. Additionally, initial levels of child behavior problems may affect homework completion rates. Reid et al. (2004) found higher levels of child behavior problems predicted higher levels of program attendance, homework completion, and discussion participation in a group parent training program. Little is known about the impact of homework on the length of treatment for parent training programs that are not session- or time- limited. It would be expected that parents who complete more homework may complete treatment faster due to the additional practice utilizing skills taught in session.

Purpose of this Study

Information learned through studying parent engagement in treatment can inform the selection or development of strategies to increase treatment engagement and improve treatment outcomes for children and families. PCIT is an individual parent training model with a strong evidence base but with challenges related to premature attrition, particularly in community settings, and studies reporting rates of homework completion far below ideal. The current study builds on our prior research on the community-based application of PCIT with ethnically diverse families in an urban setting (Lyon and Budd 2010) by examining the role of homework completion in relation to treatment outcomes, as well as variables associated with homework completion. Of the small research literature on predictors and correlates of homework completion in parent training, most studies dealt with group parent training, and thus this research provides new information on a minimally studied but important aspect of parent engagement. Also, unlike many other homework investigations of behavioral parent training programs, this study collected data from

parents on homework completion at every session. Our study had one research question: What are the patterns of homework completion throughout treatment, and are there differences between families who completed treatment and those who dropped out? The hypotheses in our study were exploratory in nature based on the limited research to date. We had three main study hypotheses:

1. Homework completion and treatment outcome. Families with higher percentages of homework completion will show better treatment outcomes by reporting fewer child behavior problems at post-treatment.
2. Predictors of homework completion. Demographic variables, specifically, younger parent age, higher parent education levels, higher parent income levels, and female parent gender will be related to higher rates of homework completion. Additionally, homework completion will positively correlate with initial child behavior problem levels.
3. Homework completion and treatment correlates. Higher homework completion rates will be associated with shorter lengths of treatment among parents who complete PCIT; and families who complete treatment will demonstrate higher levels of homework completion than families who drop out. Homework completion will also positively correlate with treatment satisfaction.

Methods

Participants

The current study included 53 families out of 60 potential participants who sought treatment through referrals from hospital programs, schools, local community clinics, or self-referrals. Two families were excluded from the study because they failed to begin treatment following an initial assessment, and three other families did not consent to participate in the research although they still received PCIT services. Two additional families were not included in the study because the parents terminated treatment after the first treatment session, before any homework could be collected. The current sample includes the 12 pilot study participants that were reported on in Lyon and Budd (2010). The University Institutional Review Board approved the study, and all participants consented to research participation.

Children aged 2–7 (inclusive) were eligible to enroll in PCIT services if they exhibited clinical levels of oppositional and/or defiant behavior in the home environment and at least one parent or primary caregiver was available to attend weekly sessions with the child. The study made one exception to the age criterion by enrolling a 9-year-old child with a developmental delay, who was referred for severe aggressive behavior in the context of the parent–child relationship. Two participating families had twins enrolled in the study. For these families, one parent in each dyad was paired with one child for purposes of calculating homework completion and completing self-report measures.

Eight children (15.1 %) had caregivers other than parents who participated (e.g. grandmothers, foster parents, and great-aunts); after this all caregivers are referred to as parents. Of the 53 children enrolled in the study, 18 (34.0 %) had two parents in treatment, and 35 had one parent in treatment. The parent who endorsed doing the majority of the caregiving for the child participating in treatment was classified as the primary parent. As shown in Table 1, most of the child participants were male, and child ethnicity was

Table 1 Demographic characteristics of the sample ($N = 53$)

	Percent of participants/M (SD)
Parent gender	
Male	7.5 %
Female	92.5 %
Parent age	36.43 (9.98)
Parent ethnicity	
Black/African American	20.8 %
Hispanic/Latino	37.7 %
White/Caucasian	39.6 %
Asian/Asian American	1.9 %
Child gender	
Male	75.5 %
Female	24.5 %
Child age	4.40 (1.43)
Child ethnicity	
Black/African American	26.4 %
Hispanic/Latino	28.3 %
White/Caucasian	22.6 %
Asian/Asian American	1.9 %
Multiracial	20.8 %

distributed fairly evenly between African-American, Latino, Caucasian, and Multiracial. Primary parents of children participating in PCIT ranged in age from 20 to 59, with an average age of 36 years. Parent ethnicity was predominantly Latino, Caucasian, and to a lesser extent African-American, with the majority of parents being female. Parent-reported education level was 5.7 % less than high school, 22.6 % high school graduate, 34.0 % some college, 35.8 % college graduate and above, and 1.9 % unreported.

During the initial operation of PCIT at the community mental health center, reporting family income was not required by the clinic. Approximately a quarter of the sample (26 %) did not report family income. To address the missing data issue, income data were imputed using geocoding, which utilizes census data based on the family's address and year of treatment. This is an effective method for imputing income data for reporting socioeconomic status in a research sample (Krieger 1992; Krieger et al. 1997). Variability of data can make traditional imputation methods less accurate, and there was a wide variability of income in the sample and a few outliers with high incomes. Family income ranged from \$0 to \$200,000, with a median income of \$32,236 ($M = \$48,081$, $SD = \$44,598$). Of the 53 families, 69.8 % ($n = 37$) received public assistance (e.g. Medicaid), 7.5 % ($n = 4$) were charged a reduced fee for treatment based on their financial status, and 22.6 % ($n = 12$) were charged full rate and given the option to submit claims to their insurance companies for reimbursement.

Setting and Equipment

Study participants received PCIT at a community mental health center in a large urban Midwestern city. The center serves as a training site for doctoral clinical psychology students, employs full-time and part-time staff clinicians, and provides an array of

psychological services to youth and families. PCIT sessions were conducted in a family therapy room with a one-way mirror, which was connected to an observation room. During the second phase of treatment, a third room served as a back-up room for the timeout procedure. An audio recorder placed in the therapy room recorded the full content of each session. A bug-in-the-ear device allowed therapists to coach parents from behind the one-way mirror between the observation and therapy rooms.

Measures

Homework Completion

Homework completion was assessed using homework sheets from the PCIT treatment manual (Eyberg and Child Study Lab 1999; Eyberg and Funderburk 2011). Parents were provided with a weekly homework sheet on which they were instructed to record the date they completed homework, the activity, and any problems/notes. Therapists reviewed the sheet with parents at the beginning of each session prior to collecting it. Homework assignments started at the second pre-assessment session or in the CDI Teach session and were assigned weekly until the last PDI session before graduation or treatment completion. CDI homework was assigned during both the CDI and PDI phases of treatment, whereas PDI homework was only assigned during the PDI phase as outlined in the PCIT manual (Eyberg and Funderburk 2011).

Homework completion was calculated by a trained research assistant and checked by a second research assistant for accuracy. Homework completion was calculated as a percentage by dividing the total number of days a parent completed homework by the total number of possible homework days (typically seven). If there was more than 1 week between treatment sessions (usually due to cancellations or holidays), homework was calculated for only a single week, such that parents received a maximum credit of 7 days of homework completed, in an effort to avoid penalizing parents for incomplete homework due to a missed session.

Child Behavior Problems

The Eyberg Child Behavior Inventory (ECBI; Eyberg and Pincus 1999) is a 36-item parent report scale that examines externalizing behaviors in children between the ages of 2 and 16. The ECBI Intensity Scale measures the frequency of disruptive behavior on a seven-point Likert scale and has a clinical cut-off score of 132 or above. The ECBI Intensity Scale has a normative mean of 97 and a standard deviation of 35. The ECBI also includes a Problem Scale, which asks parents to indicate if their child's disruptive behavior is a problem or not. Parents completed the ECBI at the beginning and end of treatment. Previous research has established that the ECBI has good internal reliability and demonstrates content and discriminant validity (Eyberg and Pincus 1999). The ECBI has test–retest values between .86 and .88, and inter-rater reliability values between .79 and .86. The internal consistency estimate for ECBI intensity scale scores in the current sample was .94.

Parental Attitude Toward Treatment

The Therapy Attitude Inventory (TAI; Brestan et al. 1999) is a 10-item parent-report measure that assesses satisfaction with treatment. Parents rate items on a 1–5 on a

five-point scale, where 1 indicates *less satisfaction* and 5 indicates *greater satisfaction* with treatment. Previous research has yielded high internal consistency of .91 and a 4-month test-retest reliability of .85 (Brestan et al. 1999). Internal consistency for the current sample was .92.

Treatment Completion

Families who met mastery criteria for each phase of PCIT were considered treatment completers. To meet mastery, parents must (1) demonstrate high skill use during a period of observation according to standardized criteria before moving on to the next phase of treatment or completing treatment; (2) rate their child's ECBI score within a half standard deviation of the normative mean at the end of treatment; and (3) express confidence in their ability to manage their child's behavior at the end of treatment. PCIT mastery criteria are described in greater detail elsewhere (Eyberg and Funderburk 2011). Participants were considered dropouts (i.e., non-completers) if they explicitly told the therapist that they wanted to end treatment, failed to attend all further scheduled treatment sessions, or failed to return calls despite six or more weeks of consistent effort by the therapist to re-engage the parent by phone and mail.

Treatment Integrity

Adherence to the PCIT manual was measured using the standard PCIT fidelity checklists (Eyberg and Child Study Lab 1999; Eyberg and Funderburk 2011). Trained research assistants reviewed a randomly generated sample of 25 % of each family's audiotaped sessions and completed fidelity checks. An independent reviewer then coded a randomly selected 10 % of those sessions to assess reliability. Integrity checks yielded 96 % adherence with 96 % percent agreement between raters.

Procedure

Enrollment and Pre-assessment

After completing a clinical intake, participants were identified as potential candidates for PCIT. Families then attended two initial assessment sessions with PCIT therapists. Assessment sessions consisted of a brief clinical interview, an overview of PCIT and the research study, review of the informed consent form, standardized parent-child observation, and administration of measures.

Providers

PCIT therapists included clinical psychology doctoral students and a licensed social worker. A doctoral level faculty supervisor supervised all PCIT therapists. Therapists were trained in PCIT as part of a 24-h training orientation conducted by the faculty supervisor or at a 40-h 1-week training by a PCIT Master Trainer. Therapists participated in weekly clinical supervision and ongoing PCIT training with the faculty supervisor. A co-therapist model was used for training purposes in the majority of treatment sessions.

Treatment

PCIT intervention followed the protocol in the PCIT treatment manual (Eyberg and Child Study Lab 1999; Eyberg and Funderburk 2011). Therapy sessions lasted 60–90 min and were audiotaped. At the beginning of each phase of treatment, parents were taught CDI and PDI skills during a Teach session through the use of didactic instruction, role-plays, and practice. Subsequent CDI and PDI sessions were devoted primarily to coaching parents in the PCIT skills during play with their child. Each coaching session started with a check-in of personal concerns, followed by a review of homework completion. The therapists then coded parents' use of the targeted skills during a 5-min play situation, which was followed by live coaching in PCIT skills for 15–30 min. If two parents were involved in treatment, the parents took turns participating in coding and coaching, with total coaching time distributed among parents. Sessions ended with a review of parents' skill use and ECBI scores, followed by assignment of homework for the following week. For families who completed treatment, the average number of sessions to graduation (not including assessment sessions) was 21.75 ($SD = 7.02$). For families who did not complete treatment, the average number of sessions was 7.50 ($SD = 7.65$).

Post-assessment

Once families met treatment completion criteria, they participated in one to two final sessions to celebrate graduation from treatment and complete post-assessment measures. Treatment completers filled out a series of measures similar to the measures completed before treatment, and additionally completed a treatment satisfaction measure. When families dropped out of treatment before meeting all treatment completion criteria, they were encouraged to attend a final session or, in rare instances when this was not feasible, to participate in a phone interview to complete a final ECBI and the treatment satisfaction measure. Some missing data occurred due to dropout families declining the opportunity to attend a final session or complete a phone interview. If a family did not attend a final session after dropping out or did not complete a phone interview, the ECBI from the family's last treatment session was used as the post-ECBI in the analyses below ($n = 9$).

Data Analytic Plan

All analyses were conducted using the Statistical Package for Social Sciences (SPSS) software, version 19.0. We first conducted preliminary analyses to examine descriptive statistics regarding homework completion in our sample. Next, a hierarchical regression analysis tested whether homework completion was a predictor of treatment outcome. Bivariate correlations, a one-way analysis of variance (ANOVA), and paired sample t -tests were then used to examine predictors and correlates of homework completion. We used Bonferroni adjusted alpha levels of .01 for correlations. For the analysis of the relationship between homework completion and treatment satisfaction, nine cases were dropped list-wise from the study's sample of 53 participants due to missing data for the TAI. Bivariate correlations also examined the relationship between homework completion and treatment course and a one-way ANOVA was used to examine homework completion differences between treatment completers and dropouts. Lastly, paired-sample t -tests examined the pattern of homework completion over treatment.

Results

Descriptive Statistics

Of the 53 families, all of whom participated in at least one treatment session and had the opportunity to turn in homework, 28 families completed treatment and 25 dropped out before meeting PCIT mastery criteria. Total homework completion for individual parents across the study ranged from 0 to 86 % of homework assigned ($M = .45$, $SD = .23$). As depicted in Fig. 1, the mean frequency of homework completion varied across both completer and dropout parents; however, a greater number of treatment dropouts than completers turned in an average of 0–1 days of homework per week, and more treatment completers than dropouts turned in an average of 5–6 days of homework per week.

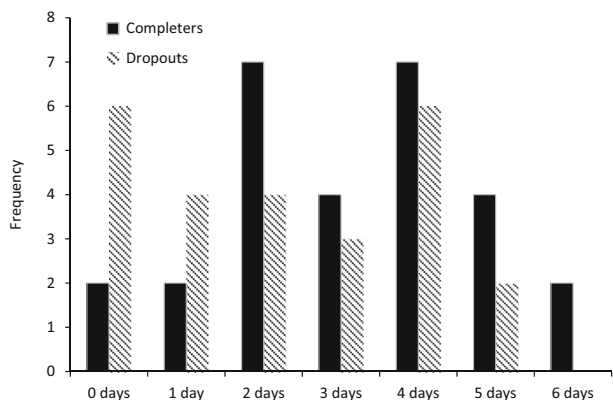
Homework Completion and Treatment Outcome

The first study hypothesis was that families with higher percentages of homework completion would report fewer child behavior problems at post-treatment. Total homework completion showed a trend toward significance in predicting post-treatment child behavior problem intensity (ECBI) scores when controlling for pre-treatment child behavior problem intensity and treatment completion status ($\beta = -.19$, $p < .10$), [$t(1,49) = -1.72$, $p < .10$, $f^2 = .06$]. Homework completion also showed a trend toward significance in explaining a proportion of variance in post-treatment ECBI scores, $\Delta R^2 = .03$, $p < .10$.

Predictors of Homework Completion

The second study hypothesis was that initial child behavior problem levels and demographic variables, including parent age, gender, education, and income, would be associated with homework completion rates. The result of a bivariate correlation between initial ECBI Intensity score and total homework completion percentage was not significant ($r = -.22$, $p > .05$). Demographic data for the primary caregiver was used for all demographic variables with the exception of income, which was measured as household yearly income. Results showed no significant association between household income and percentage of homework completed ($r = .07$, $p > .05$) or between parent age and

Fig. 1 Average days of homework completed per week for treatment completers ($n = 28$) and Treatment Dropouts ($n = 25$)



homework completion ($r = .19, p > .05$). A one-way ANOVA demonstrated no significant differences in homework completion when examined with parent education level [$F(3, 48) = 2.14, p > .05, d = 2.23$].

Of the child participants with two parents in treatment, ten had complete homework data from a mother and father. Paired-sample *t*-tests examined the differences between mother and father homework completion. Mothers were more likely to complete assigned homework ($M = .59, SD = .30$) than fathers ($M = .46, SD = .22$) throughout treatment, $t(1,9) = 2.76, p = .02, d = .98$. Mothers were also more likely to complete homework than fathers during the CDI phase of treatment [$t(1,9) = 2.68, p = .03, d = .89$] and PDI phase of treatment [$t(1,8) = 2.86, p = .02, d = 1.11$].

Homework Completion and Treatment Correlates

The third hypothesis predicted that higher homework completion rates would be associated with a shorter length of treatment among parents who completed PCIT treatment. The correlation between CDI homework completion and the number of treatment sessions for treatment completers showed a trend toward significance ($r = -.33, p < .10, N = 28$), suggesting that parents who completed more homework in the CDI phase of treatment were somewhat more likely to complete treatment in fewer sessions. The correlation between total homework completion and number of treatment sessions was not significant, $r = -.23, p > .01$. CDI homework completion showed a trend toward significance in predicting the number of CDI phase treatment sessions, $r = -.36, p < .10$, but not the number of PDI phase treatment sessions, $r = -.25, p > .01$.

We predicted that families who completed treatment would demonstrate higher levels of homework completion than families who dropped out of treatment. A one-way ANOVA found that the differences in total homework completion between treatment completers ($N = 28, M = .52, SD = .22$) and treatment dropouts ($N = 25, M = .39, SD = .26$) approached significance, $F(1,51) = 3.86, p < .10, d = .54$, suggesting treatment completers were somewhat more likely to complete homework than treatment dropouts. There was a significant difference in CDI phase homework completed between treatment completers ($M = .59, SD = .23$) and treatment dropouts ($M = .41, SD = .28$), $F(1,51) = 6.70, p < .05, d = .71$.

We also hypothesized that homework completion would positively correlate with treatment satisfaction. A bivariate correlation examined if percentage of homework completed was a significant predictor of treatment satisfaction. There was a significant positive correlation ($r = .37, p = .01, N = 44$) between percentage of total homework completed and the TAI, indicating that parents with higher treatment satisfaction completed more homework.

Patterns of Homework Completion Over Treatment

Participants were more likely to complete homework assigned during the CDI phase ($M = .59, SD = .23$) than the PDI phase ($M = .47, SD = .25$) of treatment $t(1,34) = 3.66, p = .001, d = .62$. For child participants who had complete homework data from both a mother and father in treatment, mothers evidenced a similar trend toward a decrease of homework completion over time [$t(1,8) = 1.93, p < .10, d = .74$]. Interestingly, fathers did not demonstrate any difference in homework completion between the CDI phase ($M = .50, SD = .16$) and the PDI phase ($M = .48, SD = .24$) of treatment $t(1,8) = .23, p > .05, d = .08$.

Discussion

The current study sought to further understand predictors and correlates of a specific measure of parent engagement, homework completion, in a community-based application of a behavioral parent training program. This study adds to the limited literature on homework completion in individual parent training programs and suggests future directions to improve parent engagement and treatment effectiveness for children and families. Results revealed variation in homework completion across participants, with parents on average completing slightly less than half of all homework assigned. We found that homework completion showed a trend toward significance in predicting post-treatment child behavior problems. Homework completion did not vary significantly according to most demographic variables with the exception of parent gender. Interestingly, no relationship was found between levels of initial child behavior problems and homework. We found a trend for parents with higher CDI homework completion to finish treatment in fewer sessions, but this relationship was not found with overall homework completion. Results also indicated that parents who completed more homework reported higher levels of treatment satisfaction. Finally, this study found that parents who completed treatment showed marginally higher rates of overall homework completion compared to parents who dropped out of treatment. Below, we discuss these findings in light of the existing literature, questions for further research, and potential strategies for increasing parent engagement and homework adherence in parent training.

Partially supporting our first hypothesis, parents who completed more homework throughout treatment reported somewhat fewer child behavior problems at the end of treatment. These findings are consistent with prior research using other parent training models (e.g. Kling et al. 2010; Tynan et al. 2004) but differ from Schoenfield's (2004) unpublished study with PCIT. The difference could be due to this study examining completion of both CDI and PDI homework, whereas Schoenfield (2004) only looked at CDI homework completion. Our findings suggest that homework completion may play a role in changes reported in a child's behavior over treatment, but the mechanism for this change remains unknown. One possible explanation is that homework completion may influence behavior change by facilitating parents' skill acquisition. The more parents practice the skills at home, the better they may get at implementing the skills to address child behavior problems, and therefore parents may see more change in child behavior by the end of treatment. Alternatively, the relationship between homework completion and parent-rated behavior change may be due to other unexplored variables, such as parenting satisfaction, parents' awareness of their child's needs, or other parent cognitions.

In examining the relationship between homework completion and demographic predictor variables, homework completion was not associated with family income level or parent age. This is consistent with previous literature that has examined homework compliance and demographic factors with samples of adults and found no significant relationship (Bryant et al. 1999; Carroll et al. 2005). Although there was not a significant relationship found between homework completion and parent education, results demonstrated a large effect size. The current results differ somewhat from Nix et al.'s (2009) finding of an association between the quality of parent participation (a construct that included homework completion) and both parent education and income in a group parent training program. It is possible that, in comparison to group parent training, homework completion in individual parent training is affected more by treatment "buy-in," such that parents who are more engaged in treatment are more motivated to complete homework

regardless of stressors they experience related to demographic factors. The current results also differ from Tiano et al.'s (2013) finding that younger parents had more positive attitudes about homework assignments in parent training relatively to older parents; however, the differences may relate to the fact that Tiano and colleagues measured attitudes about homework in a normative community sample whereas the present study examined homework completion in a clinical sample undergoing treatment.

Interestingly, the current study did find that, for children who had both a mother and father participate in treatment, mothers were more likely to complete assigned homework. This is consistent with limited studies that have examined the relationship between patient or parent gender and homework (Helbig and Fehm 2004; Tiano et al. 2013). Fathers may have less time available to practice PCIT homework with their child, view homework as less important, or find homework not to be useful or helpful. Further, the findings are consistent with the traditional role of mothers as the primary parent, and as such, mothers may provide more caregiving or assume greater responsibility for the child's treatment.

Surprisingly, the current results showed no relationship between initial levels of child behavior problems and homework completion. This is contrary to research from a group parent training program that found higher levels of parent- and observer-rated child behavior problems predicted higher levels of program engagement, which included homework (Reid et al. 2004). One possible explanation for the differing findings is that the sample in the current study was comprised of children who had clinical levels of oppositional and/or defiant behavior, whereas Reid et al. (2004) did not require clinical levels of disruptive behavior problems for participation in their parent training program.

Results demonstrated mixed findings for the relationship between homework completion and length of treatment among parents who completed PCIT treatment. Parents who completed more homework during the CDI phase of treatment were somewhat more likely to complete treatment in fewer sessions, but this relationship was not significant with regard to overall homework completion. Additionally, the percentage of homework completed during the CDI phase was marginally related to the number of treatment sessions in the CDI phase of treatment, but homework completion in the PDI phase did not predict the number of sessions during the PDI phase of treatment. These findings leave unanswered the influence of homework practice on the pace of treatment, and they suggest that other factors are also likely to affect how quickly families complete treatment.

Parents who reported they were more satisfied with treatment completed more homework throughout treatment. These results are consistent with prior findings that suggest parent expectancies of treatment are a significant predictor of treatment participation, which often includes homework compliance (Nock and Kazdin 2001). Treatment satisfaction was assessed only at the end of treatment in the current study; however, it may be beneficial for clinicians to assess and attend to parent expectancies and "buy-in" to behavioral parent training programs at the beginning of treatment and periodically across treatment in order to increase homework completion rates.

Parents who completed treatment demonstrated significantly higher levels of CDI phase homework completion and somewhat higher levels of total homework completion than parents who dropped out of treatment, although the latter finding did not reach statistical significance. Prior research has found that homework completion is an important part of treatment engagement, and parents who are more engaged in treatment are less likely to drop out of treatment (Staudt 2007). Low levels of homework completion during the early phase of treatment may indicate that the family is less engaged in treatment and could be at higher risk of dropout.

Homework completion varied over time, and results showed that parents were more likely to report completing homework during the CDI phase of treatment than during the PDI phase. This is consistent with Cunningham et al.'s (1993) findings that homework completion decreased over time and with Högström et al.'s (2015) decrease in homework completion between the first and latter halves of treatment. On the other hand, our results differed from Chacko et al.'s (2012) finding that there was no difference in homework completion over time for their group parent training program with single mothers. In their review of homework compliance in psychotherapy, Kazantzis et al. (2005) stated, "...the difficulty of the homework task has been suggested to be important in predicting whether a client will complete a given homework assignment." It may be that parents view PDI homework as more difficult, and therefore that they are less likely to complete homework during that phase of treatment. Overall, homework completion rates during both phases of treatment were low, and the directiveness of PCIT as a parent training program may affect compliance with homework. Prior research with parents by Patterson and Forgatch (1985) showed that parent resistance increased when therapists engaged in higher levels of "teach" and "confront" behaviors in therapy sessions. Utilizing the DADR model, a four-phase homework process model developed by Kazantzis et al. (2005), in future research would be beneficial to better understand the process of homework implementation in behavioral parent training programs. This model proposes that certain social, cognitive, and behavioral factors impact the quality and quantity of homework completed and researchers are starting to use this model to study homework in behavioral parent training (Chacko et al. 2013).

Study Limitations

The current study had several limitations, including a modest sample size of families who completed treatment and the necessity for imputation of missing income data. Further, some findings were marginally significant or based on correlational evidence and require future study with larger sample sizes. The timing of CDI prior to PDI was confounded with time in treatment, so it was not possible to tell whether the specific content being covered or the length in treatment resulted in more homework being completed during the CDI phase. In addition, the construct of homework presents several measurement challenges. For one, homework measurement relied on parents' ability to turn in homework sheets at every therapy session and accurately note the number of days they completed homework. As a result, the current study may underestimate homework actually completed by participants. The measure of homework completion in this study was limited as it was a self-report of practice and no data were collected regarding the accuracy and effectiveness of the practice of the parenting skills used in the home. Quality of homework adherence could not be assessed, and it is possible that parents may have misrepresented their actual homework completion or misunderstood how to use the skills on their own at home. It has been suggested that the quality of homework may be a stronger predictor of treatment outcomes than the quantity of homework (Cammin-Nowak et al. 2013). It would be beneficial in future research to examine the activities completed by parents rather than only the amount of homework completed by parents.

Future Research and Practice Implications

Future research should examine the effects of homework completion on the specific skills taught to parents and on the quality of parent–child interactions. Homework completion in

PCIT consists of practicing targeted PCIT skills in the context of parent–child play between sessions, and it is presumed that practice improves skill acquisition, but no published research has been conducted in this area. Additionally, PCIT differs from some other behavioral parent training programs where parents are taught various parent training principles separately and homework for each component is assigned weekly. Examining the impact of different homework assignments each week on homework adherence would further our understanding of the impact of type of homework assignment on homework completion.

Parent cognitions, including parental attributions about the problem and expectations of treatment, have been shown to be related to parent engagement in behavioral parent training (e.g. Morrissey-Kane and Prinz 1999; Staudt 2007). Studying the relationship between parent cognitions and homework completion would advance the understanding of predictors more conceptually related to homework completion and could lead to improvements in treatment effectiveness. Also, further intervention research is needed to enhance homework compliance (Dozois 2010). Motivational interviewing has been found to be effective for retaining families in PCIT with initial levels of low to moderate motivation, and it is possible that motivational interviewing may be able to improve homework adherence in behavioral parent training programs as well (Chaffin et al. 2009; Dozois 2010).

This study provides modest support for emphasizing the importance of homework completion with parents in behavioral parent training programs. Our results indicate that homework completion was associated with somewhat lower parent-reported child behavior problems at post-treatment, somewhat shorter treatment duration, and greater perceived satisfaction with treatment. The absence of strong, consistent associations between homework completion and treatment outcome measures also suggests that homework completion, at least as currently measured in parent training, is not a robust index of treatment engagement. Nevertheless, assuming the current findings of modest support for the benefits of homework completion are supported by further research, more effective strategies are needed to increase homework completion in parent training programs. However, emphasizing the importance of homework can be a challenging task for therapists in practice. A study measuring trainee fidelity to PCIT showed that trainees in particular demonstrated difficulty with how to discuss homework with clients (Travis and Brestan-Knight 2013). This points to the importance of working with trainees on strategies for discussing homework completion to help clients progress through treatment quickly and experience stronger treatment benefits.

McNeil and Hembree-Kigin (2010) discuss several strategies therapists can use to emphasize the importance of homework, including collecting the homework sheet at the beginning of the session as a “ticket” into the session, requiring parents to re-create the homework sheet in the waiting area if it is not brought to the session, and using an incentive system with parents and children that rewards homework completion. Another strategy that PCIT therapists can use to discuss homework with parents is to add homework percentages to the ECBI graph that plots child behavior problem levels across each week of treatment (Warner-Metzger, personal communication 2014). This practice allows the therapist to emphasize the relationship between homework completion and child behavior problem levels on a session-by-session basis, and provides a concrete opportunity to discuss homework completion as part of an existing PCIT procedure with the ECBI graph. Jones et al. (2014) piloted the use of smartphone technology enhancements to an evidence-based behavioral parent training program with a low-income sample and reported increased homework completion rates. Smartphone technology, including text messaging,

may be a helpful, inexpensive tool for therapists to utilize to increase treatment engagement, including homework completion, in behavioral parent training.

This is the first published study to explore predictors and correlates of homework completion in a community-based implementation of PCIT, and one of a few examining homework completion in individual parent training programs. Consistent with the larger literature on the effects of homework in other forms of therapy, our findings suggest that homework has some benefits for treatment outcomes. Higher levels of homework completion resulted in a trend toward shorter treatment duration and more positive parent perceptions of treatment. Interestingly, homework completion was not related to most demographic variables with the exception of parent gender. Despite the apparent benefits of homework, rates of adherence to homework were variable and, overall, far below optimal levels. The current study serves as a starting point for understanding how homework contributes to treatment progress in individual behavioral parent training programs and treatment outcomes.

References

- Baker-Ericzén, M. J., Hurlburt, M. S., Brookman-Frazee, L., Jenkins, M. M., & Hough, R. L. (2010). Comparing child, parent, and family characteristics in usual care and empirically supported treatment research samples for children with disruptive behavior disorders. *Journal of Emotional and Behavioral Disorders, 18*, 82–99.
- Baydar, N., Reid, M. J., & Webster-Stratton, C. (2003). The role of mental health factors and program engagement in the effectiveness of a preventive parenting program for Head Start mothers. *Child Development, 74*, 1433–1453.
- Berkovits, M. D., O'Brien, K. A., Carter, C. G., & Eyberg, S. M. (2010). Early identification and intervention for behavior problems in primary care: A comparison of two abbreviated versions of parent-child interaction therapy. *Behavior Therapy, 41*, 375–387.
- Brestan, E., Jacobs, J., Rayfield, A., & Eyberg, S. M. (1999). A consumer satisfaction measure for parent-child treatments and its relation to measures of child behavior change. *Behavior Therapy, 30*, 17–30.
- Bryant, M. J., Simons, A. D., & Thase, M. E. (1999). Therapist skill and patient variables in homework compliance: Controlling an uncontrolled variable in cognitive therapy outcome research. *Cognitive Therapy and Research, 23*, 381–399.
- Cammin-Nowak, S., Helbig-Lang, S., Lang, T., Gloster, A. T., Fehm, L., Gerlach, A. L., & Wittchen, H. U. (2013). Specificity of homework compliance effects on treatment outcome in CBT: Evidence from a controlled trial on panic disorder and agoraphobia. *Journal of Clinical Psychology, 69*, 616–629.
- Carroll, K. M., Nich, C., & Ball, S. A. (2005). Practice makes progress? Homework assignments and outcome in treatment of cocaine dependence. *Journal of Consulting and Clinical Psychology, 73*, 749–755.
- Chacko, A., Anderson, L., Wymbs, B. T., & Wymbs, F. A. (2013). Parent-endorsed reasons for not completing homework in group-based behavioural parent training for high-risk families of youth with ADHD. *Behaviour Change, 30*, 262–272.
- Chacko, A., Wymbs, B. T., Chimiklis, A., Wymbs, F. A., & Pelham, W. E. (2012). Evaluating a comprehensive strategy to improve engagement to group-based behavioral parent training for high-risk families of children with ADHD. *Journal of Abnormal Child Psychology, 40*, 1351–1362.
- Chacko, A., Wymbs, B. T., Wymbs, F. A., Pelham, W. E., Swanger-Gagne, M. S., Girio, E., & O'Connor, B. (2009). Enhancing traditional behavioral parent training for single mothers of children with ADHD. *Journal of Clinical Child and Adolescent Psychology, 38*, 206–218.
- Chaffin, M., Valle, L. A., Funderburk, B., Gurwitch, R., Silovsky, J., Bard, D., & Kees, M. (2009). A motivational intervention can improve retention in PCIT for low-motivation child welfare clients. *Child Maltreatment, 14*, 356–368.
- Christian, A. S., Niec, L. N., Acevedo-Polakovich, I. D., & Kassab, V. A. (2014). Dissemination of an evidence-based parenting program: Clinician perspectives on training and implementation. *Children and Youth Services Review, 43*, 8–17.

- Cunningham, C. E., Davis, J. R., Bremner, R., Dunn, K. W., & Rzasa, T. (1993). Coping modeling problem solving versus mastery modeling: Effects on adherence, in-session process, and skill acquisition in a residential parent-training program. *Journal of Consulting and Clinical Psychology, 61*, 871–877.
- Dozois, D. A. (2010). Understanding and enhancing the effects of homework in cognitive-behavioral therapy. *Clinical Psychology: Science and Practice, 17*, 157–161.
- Eyberg, S. M., & Child Study Lab. (1999). *Parent-Child Interaction Therapy Integrity Checklists and Session Materials*. Gainesville, FL: University of Florida.
- Eyberg, S. M., & Funderburk, B. W. (2011). *Parent-child interaction therapy protocol*. Gainesville, FL: PCIT International.
- Eyberg, S. M., & Matarazzo, R. G. (1980). Training parents as therapists: A comparison between individual parent-child interaction training and parent group didactic training. *Journal of Clinical Psychology, 36*, 492–499.
- Eyberg, S. M., Nelson, M. M., & Boggs, S. R. (2008). Evidence-based psychosocial treatments for children and adolescents with disruptive behavior. *Journal of Clinical Child and Adolescent Psychology, 37*, 215–237.
- Eyberg, S. M., & Pincus, D. (1999). *Eyberg child behavior inventory and Sutter-Eyberg student behavior inventory-revised: Professional manual*. Odessa, FL: Psychological Assessment Resources.
- Fabiano, G. A., Chacko, A., Pelham, W. E., Jr, Robb, J., Walker, K. S., Wymbs, F., & Pivrics, L. (2009). A comparison of behavioral parent training programs for fathers of children with attention-deficit/hyperactivity disorder. *Behavior Therapy, 40*, 190–204.
- Forehand, R. T., & McMahon, R. J. (1981). *Helping the noncompliant child*. New York: The Guilford Press.
- Haine-Schlagel, R., & Walsh, N. E. (2015). A review of parent participation engagement in child and family mental health treatment. *Clinical Child and Family Psychology Review, 18*, 133–150.
- Harpaz-Rotem, I., Leslie, D., & Rosenheck, R. A. (2004). Treatment retention among children entering a new episode of mental health care. *Psychiatric Services, 55*, 1022–1028.
- Helbig, S., & Fehm, L. (2004). Problems with homework in CBT: Rare exception or rather frequent? *Behavioural and Cognitive Psychotherapy, 32*, 291–301.
- Högström, J., Enebrink, P., Melin, B., & Ghaderi, A. (2015). Eighteen-month follow-up of internet-based parent management training for children with conduct problems and the relation of homework compliance to outcome. *Child Psychiatry and Human Development, 46*, 577–588.
- Ingoldsby, E. M. (2010). Review of interventions to improve family engagement and retention in parent and child mental health programs. *Journal of Child and Family Studies, 19*, 629–645.
- Jones, D. J., Forehand, R., Cuellar, J., Parent, J., Honeycutt, A., Khavjou, O., & Newey, G. A. (2014). Technology-enhanced program for child disruptive behavior disorders: Development and pilot randomized control trial. *Journal of Clinical Child and Adolescent Psychology, 43*, 88–101.
- Kaminski, J. W., Valle, L. A., Filene, J. H., & Boyle, C. L. (2008). A meta-analytic review of components associated with parent training program effectiveness. *Journal of Abnormal Child Psychology, 36*, 567–589.
- Kazantzis, N., Deane, F. P., & Ronan, K. R. (2000). Homework assignments in cognitive and behavioral therapy: A meta-analysis. *Clinical Psychology: Science and Practice, 7*, 189–202.
- Kazantzis, N., Deane, F. P., Ronan, K. R., & L'Abate, L. (Eds.). (2005). *Using homework assignments in cognitive behavioral therapy*. New York: Routledge.
- Kazantzis, N., Whittington, C., & Dattilio, F. (2010). Meta-analysis of homework effects in cognitive and behavioral therapy: A replication and extension. *Clinical Psychology: Science and Practice, 17*, 144–156.
- Kling, A., Forster, M., Sundell, K., & Melin, L. (2010). A randomized controlled effectiveness trial of parent management training with varying degrees of therapist support. *Behavior Therapy, 41*, 530–542.
- Krieger, N. (1992). Overcoming the absence of socioeconomic data in medical records: Validation and application of a census-based methodology. *American Journal of Public Health, 82*, 703–710.
- Krieger, N., Williams, D. R., & Moss, N. E. (1997). Measuring social class in US public health research: Concepts, methodologies, and guidelines. *Annual Review of Public Health, 18*, 341–378.
- Lindsey, M. A., Brandt, N. E., Becker, K. D., Lee, B. R., Barth, R. P., Daleiden, E. L., & Chorpita, B. F. (2014). Identifying the common elements of treatment engagement interventions in children's mental health services. *Clinical Child and Family Psychology Review, 17*, 283–298.
- Lundahl, B., Risser, H. J., & Lovejoy, M. C. (2006). A meta-analysis of parent training: Moderators and follow-up effects. *Clinical Psychology Review, 26*, 86–104.
- Lyon, A. R., & Budd, K. S. (2010). A community mental health implementation of parent-child interaction therapy. *Journal of Child and Family Studies, 19*, 654–668.

- Mausbach, B. T., Moore, R., Roesch, S., Cardenas, V., & Patterson, T. L. (2010). The relationship between homework compliance and therapy outcomes: An updated meta-analysis. *Cognitive Therapy and Research, 34*, 429–438.
- McNeil, C. B., & Hembree-Kigin, T. L. (Eds.). (2010). Coaching child-directed interaction. In *Parent-child interaction therapy* (pp. 77–102). New York: Springer.
- Morrissey-Kane, E., & Prinz, R. J. (1999). Engagement in child and adolescent treatment: The role of parental cognitions and attributions. *Clinical Child and Family Psychology Review, 2*, 183–198.
- Nix, R. L., Bierman, K. L., & McMahon, R. J. (2009). How attendance and quality of participation affect treatment response to parent management training. *Journal of Consulting and Clinical Psychology, 77*, 429–438.
- Nock, M. K., & Ferriter, C. (2005). Parent management of attendance and adherence in child and adolescent therapy: A conceptual and empirical review. *Clinical Child and Family Psychology Review, 8*, 149–166.
- Nock, M. K., & Kazdin, A. E. (2001). Parent expectancies for child therapy: Assessment and relation to participation in treatment. *Journal of Child and Family Studies, 10*, 155–180.
- Patterson, G. R., & Forgatch, M. S. (1985). Therapist behavior as a determinant for client noncompliance: A paradox for the behavior modifier. *Journal of Consulting and Clinical Psychology, 53*, 846–851.
- Prinz, R. J., & Miller, G. E. (1994). Family-based treatment for childhood antisocial behavior: Experimental influences on dropout and engagement. *Journal of Consulting and Clinical Psychology, 62*, 645–650.
- Reid, M. J., & Webster-Stratton, C. (2001). The incredible years parent, teacher, and child intervention: Targeting multiple areas of risk for a young child with pervasive conduct problems using a flexible, manualized, treatment program. *Cognitive and Behavior Practice, 8*, 377–386.
- Reid, M. J., Webster-Stratton, C., & Baydar, N. (2004). Halting the development of conduct problems in Head Start children: The effects of parent training. *Journal of Clinical Child and Adolescent Psychology, 33*, 279–291.
- Reyno, S., & McGrath, P. (2006). Predictors of parent training efficacy for child externalizing behavior problems – a meta-analytic review. *Journal of Child Psychology and Psychiatry, 47*, 99–111.
- Schoenfield, L. J. (2004). *The predictive ability of adherence to homework and skill acquisition for treatment outcome in parent-child interaction therapy*. Master's thesis, University of Florida.
- Staudt, M. (2007). Treatment engagement with caregivers of at-risk children: Gaps in research and conceptualization. *Journal of Child and Family Studies, 16*, 183–196.
- Tiano, J. D., Grate, R. M., & McNeil, C. B. (2013). Comparison of mothers' and fathers' opinions of parent-child interaction therapy. *Child and Family Behavior Therapy, 35*, 110–131.
- Travis, J. K., & Brestan-Knight, E. (2013). A pilot study examining trainee treatment session fidelity when parent-child interaction therapy (PCIT) is implemented in community settings. *The Journal of Behavioral Health Services & Research, 40*, 342–354.
- Tynan, W., Chew, C., & Algermissen, M. (2004). Concurrent parent and child therapy groups for externalizing disorders: The rural replication. *Cognitive and Behavioral Practice, 11*, 99–101.
- Tynan, W., Schuman, W., & Lampert, N. (1999). Concurrent parent and child therapy groups for externalizing disorders: From the laboratory to the world of managed care. *Cognitive and Behavioral Practice, 6*, 3–9.
- Wierzbicki, M., & Pekarik, G. (1993). A meta-analysis of psychotherapy dropout. *Professional Psychology: Research and Practice, 24*, 190–195.
- Zisser, A., & Eyberg, S. M. (2010). Treating oppositional behavior in children using parent-child interaction therapy. In A. E. Kazdin & J. R. Weisz (Eds.), *Evidence-based psychotherapies for children and adolescents* (2nd ed., pp. 179–193). New York: Guilford.