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An Examination of the Effectiveness of a Bibliotherapy Version of Parent-Child Interaction Therapy

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An Examination of the Effectiveness of a Bibliotherapy Version of Parent-Child Interaction Therapy

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Biography

The author was born in Champagne, Illinois, September 21st, 1981. She graduated from Scottsdale Christian Academy and received her Bachelor of Arts degree in Psychology from the University of Notre Dame in 2003. She received her Masters of Arts in Counseling Psychology from the University of California, Santa Barbara in 2008 and is currently pursuing her Ph.D. in Clinical-Child Psychology at DePaul University in Chicago, Illinois.

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Abstract

Disruptive behavior problems are common in early childhood. However, despite their ubiquity, they are often quite stressful for parents and can be damaging to parent-child relationships. In addition to being disruptive to the family, research has demonstrated that early disruptive behavior problems can set children on a path to continue experiencing escalating levels of disruptive behavior throughout childhood and into adolescence. Recent research has determined prevention to be an important area of emphasis for interrupting this negative trajectory of disruptive behaviors. Secondary prevention interventions target children and families who are seeing the early signs of this negative long-term trajectory and seek to break the cycle of disruptive child behavior. Bibliotherapy adaptations of evidence-based parent training models have recently come to light as potentially useful prevention interventions. One prevention intervention that has shown potential utility is a recent pilot study on Parent Child Interaction Therapy-Anticipatory Guidance (PCIT-AG). The purpose of the proposed study is to build on the preliminary findings of the pilot study by conducting a randomized control trial that examines the utility of the PCIT-AG materials in reducing child disruptive behavior and caregiver stress, and increasing caregiver sense of competence when compared to a waitlist control group. The participants from this study consist of 37 caregivers recruited from around the Chicago metropolitan area. Participants were split into a PCIT-AG treatment group and a waitlist control group. Caregivers in the PCIT-AG group were given six weeks to review and implement the materials with their child before being asked to complete post measures. Caregivers in the PCIT-AG group saw significant decreases in child disruptive behavior as compared to the waitlist control group. However, caregivers in the PCIT-AG group did not demonstrate greater reductions in parent stress and increases in parental sense of competence, when compared to the

waitlist group. The results of this study indicate potential support for the use of the PCIT-AG materials as a low-cost prevention intervention for children with disruptive behavior.

Child anecdotes are ubiquitous, and parents often particularly relish the entertainment value of their child's greatest transgressions. Most will brush aside such tales with a "kids will be kids" wink of understanding, accompanied by some cathartic laughter, as any parent will admit that, in one way or another, she has become accustomed to a panoply of youthful mishaps and misbehavior. Yet, there are situations that cannot be laughed off: where the level of the child's disruptive behavior reaches an extent that causes significant stress in the family. It is at this point that parents may turn outward for information and new strategies to ameliorate their child's disruptive behavior. Some may pick up a book on parenting at the local library or scour the internet for solutions; others may talk with their friends or family members or join a parent group; and there are those who take the step of consulting their pediatrician or even seeking a referral to a mental health professional. Whatever method of assistance parents turn to, the end goal is the same: to reduce their child's disruptive behavior and restore order to the household.

As there are a variety of manifestations of disruptive behavior, there are equally as many theories for how parents can address it. However, there are a few consistent themes in contemporary research on parenting and intervention dissemination: the importance of prevention and early intervention in the treatment of disruptive behavior disorders (Fonagy, 1998; Shaw, 2013), the utility of parent training programs in reducing disruptive behavior (Kaminski, Valle, Filene, & Boyle, 2008; Lundahl, Risser, & Lovejoy, 2006), and the public health importance of disseminating evidence-based information to the widest audience possible (Rotheram-Borus, Swendeman, & Chorpita, 2012). The proposed research will evaluate a program for delivering evidence-based information to caregivers, to reduce young children's disruptive behavior in a simple and cost-effective manner. Prior to describing the study, the following sections provide an overview of the literature on parent training approaches to

prevention and early intervention for disruptive behavior, the utility of bibliotherapy models of parent training, and Parent-Child Interaction Therapy (PCIT), an evidence-based parent training intervention for disruptive behavior disorders (Zisser & Eyberg, 2010), which has recently been adapted with a prevention focus (Berkovits, O'Brien, Carter, & Eyberg, 2010).

Prevention, Early Intervention, and Parent Training

Prevention has been defined by the Institute of Medicine (IOM; O'Connell, Boat, & Warner, 2009) as "interventions that occur prior to the onset of a disorder that are intended to prevent or reduce risk for the disorder" (pg. 28). A public health perspective breaks prevention into three sub-categories: primary, secondary, and tertiary. Primary prevention interventions are those administered to the general public with the goal of removing potential risk factors and promoting protective factors that lead to the manifestation of mental health problems (National Public Health Partnership, 2006). Secondary prevention interventions are geared toward high-risk groups or groups where problems have begun but are not yet strongly entrenched (Moran, Ghate, & van der Merwe, 2004), whereas tertiary prevention interventions are aimed at minimizing the impact of identified disorders (National Public Health Partnership, 2006). The purpose of the proposed study is to serve as a secondary prevention intervention, by targeting families who have begun to see early behavior problems and, although misbehavior is not yet entrenched to the point of being formally labeled, are at high-risk for the development of disruptive behavior disorders.

There are two commonly cited reasons for emphasizing prevention for children who exhibit early behavior problems. The first is because children who exhibit significant levels of disruptive behavior by the time they are preschool age are likely to continue showing clinically elevated levels of behavior problems in later childhood or adolescence (Shaw, Gilliom, &

Giovannelli, 2000, Tremblay et al., 2004; Tremblay, 2006). One example of this in the literature is found in the work of the Pitt Mother and Child Project. The Pitt Mother and Child Project followed over 300 low-income males of varied ethnicities from early infancy through adolescence and measured a variety of externalizing behaviors using the Child Behavior Checklist (CBCL; Achenbach, 1991) and a coding system recording noncompliance in parent-child interactions. Researchers found that, of the boys who were in the 90th percentile on externalizing factors at age two, 62% remained at or above the 90th percentile at age six. By contrast, of those children who were below the 50th percentile on the CBCL externalizing scale at age two, only 16% reached clinical levels by age six (Shaw et al., 2000). This demonstrates the tendency of early trajectories of problem behavior to escalate or remain elevated over time, if not properly addressed.

The second reason prevention work is important for this population is research suggesting that trajectories of disruptive behavior are easier to change if addressed early in life (Reid, Webster-Stratton, & Baydar, 2004). Parenting is presumed to play a role in the development of early behavior problems, especially for children who experience more chronic behavioral problems (Moffit & Caspi, 2001). Early intervention provides a means of modifying problematic parent-child interactions when the pattern is less established (Baydar, Reid, & Webster-Stratton, 2003; Olds, 2002). A demonstration of this is seen in a meta-analysis by Moran and colleagues (2004), which examined a variety of primary and secondary intervention programs directed toward providing parent training for families with young children with disruptive behaviors. The authors found that early intervention had better and more durable outcomes in reducing child disruptive behavior, although later intervention was found to be better than not intervening at all. In addition to finding support for early intervention, the meta-analysis found support for

programs with a strong conceptual theory, those with measurable, concrete objectives and overarching aims, and for short-term interventions focused on increasing parent knowledge about child development and changing simple and concrete parenting behaviors (Moran et al., 2004).

Other meta-analyses support the effectiveness of parent training models for reducing disruptive behavior disorders and highlight specific factors that contribute to this reduction. For example, Kaminski and colleagues (2008) found that parent-training programs show an overall positive effect in changing both parent and child behavior and parent levels of knowledge. They also found that, for both parent and child outcomes, effect sizes were larger when the program involved training parents to increase positive interactions with their child as well as having the parents practice the skills with their child in session. Furthermore, teaching parents emotional communication skills was also found to increase the effect size in for both child and parent outcomes. For reduction of children's externalizing behaviors, larger effect sizes were seen when the program taught parents a time-out procedure as well as the importance of consistent responding.

A meta-analysis by Lundahl and associates (2006) found similar results in regard to the positive effects generated by parent training programs. They found that parent training is a robust intervention that demonstrates moderate effect sizes at completion of treatment. They also found that the modality through which the intervention was delivered -- individual, group, or self-directed -- did not significantly affect parent outcomes. Specifically, they found that self-directed parent training programs (e.g., written materials, audio or video delivered programs, or computer-based models) had effects on parents and children similar to other modalities of treatment delivery. The authors suggested that because self-directed programs may be more economical and flexible in how they are delivered, they may provide greater access to parent

training for a wider variety of families. Based on the promising results of self-directed models, the authors advocated further investigation of this approach (Lundahl et al., 2006).

In sum, recent research has demonstrated prevention to be an important area of emphasis for interrupting the negative trajectory of disruptive behaviors. Secondary prevention interventions target children and families who are seeing the early signs of this negative long-term trajectory and seek to break the cycle of disruptive child behavior and instead create a positive, structured relationship between parent and child. Within the parent training literature, self-directed models have been recommended as an area for further study. Self-directed models will be discussed in more detail in the next section.

Bibliotherapy

Among the self-directed models the Lundahl et al. meta-analysis (2006) found to be efficacious, one of the most common is known as "bibliotherapy." Bibliotherapy has been in existence for over 30 years and comes in many different forms; the current study is focused on parenting training bibliotherapy models that seek specific behavioral change for the parent. Early examples of this form of bibliotherapy include such materials as Patterson's *Living with Children* (1968), which was designed to help parents and teachers address problematic child behaviors, and Becker's *Parents are Teachers* (1971), which was created to teach parents how to use reinforcement theory to shape child behavior. The principles espoused in Patterson's book were of such high utility that they later became the foundation for a multitude of effective parent training programs (Brestan & Eyberg, 1998).

Bibliotherapy has seen resurgence in recent years, as clinicians look for more accessible cost- and time-efficient intervention models (Forehand, Merchant, Long, & Garai, 2010; Sanders, 2000). Bibliotherapy carries a relatively low cost (depending on the type of materials

being distributed), requires little or no clinician time, and is more convenient for families due to not requiring extensive travel or regular therapy appointments. Berkovits and colleagues (2010) found that parents of 3- to 6-year-old children who participated in either a group parent training program or a bibliotherapy version of the same parent training program, were equally satisfied with their therapy experiences. Morawska and Sanders (2006) compared two versions of a bibliotherapy model of the Triple P-Positive Parenting Program in a sample of 126 families with a toddler with disruptive behavior. Triple P is a multi-level parent training prevention program for parents of children demonstrating disruptive behavior problems. One version of bibliotherapy had no therapist contact, while the other version involved a weekly phone call with a therapist. Their study found significant reductions in children's disruptive behavior with both bibliotherapy conditions when compared to a waitlist control group; however, mothers in the group with minimal therapist engagement demonstrated greater levels of improvement as well as increased satisfaction with the intervention, compared to those who received bibliotherapy only. One hypothesis for the differing satisfaction ratings between the Morawska and Sanders and Berkovits et al. studies is that the Morawska and Sanders sample included children with both clinical and non-clinical levels of behavior problems. The completely self-directed model offered by Morawska and Sanders may not have offered the support needed for families experiencing clinically significant levels of behavior problems. This hypothesis matches findings by Harwood, O'Brien, Carter, and Eyberg (2009) who surveyed mothers of children between 3 and 6 years of age with both clinical and non-clinical levels of behavior problems. Those mothers whose children's behavior problems were below the clinical range preferred bibliotherapy to clinician-directed interventions, but the reverse was found for mothers who had children with clinical levels of disruptive behavior. It is also important to note, both the bibliotherapy interventions and

the comparison groups being evaluated differed between the Berkovits and Morawska studies, which may have also affected the satisfaction ratings and led to the differing findings of the two studies.

Despite conflicting evidence as to whether parents prefer bibliotherapy to more traditional clinician-delivered interventions, a growing body of evidence indicates that bibliotherapy models are effective in reducing children's disruptive behavior, as well as decreasing parent stress level and increasing confidence. In 2010, Forehand and colleagues conducted a bibliotherapy study that compared the effectiveness of two parenting books: *Parenting the Strong Willed Child* (PSWC; Forehand & Long, 2002) and *Touchpoints: 3 to 6* (Brazelton & Sparrow, 2001). Their sample consisted of 52 parents of 3- to 6-year-olds who expressed an interest in learning ways to modify their child's behavior, although the children were not demonstrating clinical levels of disruptive behavior. Measures were gathered at three time points, baseline, post-intervention (six weeks later), and two-month follow-up. Results demonstrated that both books were associated with lower levels of child disruptive behavior; however, participants in PSWC group showed greater gains in reduced child problem behaviors, provided parents had read at least 80% of the assigned chapters (Forehand et al., 2010). The authors hypothesized that the reason PSWC demonstrated increased utility is that it provided parents with specific strategies for ameliorating unwanted child behaviors, as opposed to providing only developmentally oriented information. The authors concluded their findings indicate a self-directed program can help parents acquire and become comfortable with time-out procedures, and it is a cost-effective solution for reducing child disruptive behavior (Forehand at al., 2010).

Lavigne and associates (2008) also examined the effectiveness of a set of bibliotherapy materials based on Webster-Stratton's (1992) empirically supported *Incredible Years* parent training curriculum. The purpose of the study was to compare a nurse-led version, a psychologist-led version, and a bibliotherapy version of the *Incredible Years* program in order to determine if the therapist- or nurse-led versions obtained better results than the more cost- and time-efficient bibliotherapy model. Both in-person programs used the 12-session *Incredible Years* curriculum in its entirety, whereas the bibliotherapy version used only the companion book. The study was conducted with parents of 117 3- to 6-year-old children diagnosed with Oppositional Defiant Disorder. The authors found improvement across all three groups both post-treatment and at 12-month follow-up. Upon closer review the nurse- and psychologist-led versions of the curriculum were found to be more effective than the bibliotherapy version if the family attended a significant number of sessions; families that missed a significant amount of sessions saw no better results then those in the bibliotherapy group (Lavigne et al., 2008). While these findings do indicate a potential superiority of clinician-led interventions, the dropout rate for both clinician-led versions was around 30%, which was almost double the dropout rate of the bibliotherapy version, thereby leaving unanswered whether the bibliotherapy model might work better for those families who ended up dropping out of the clinician-led conditions.

Sanders, Bor, and Morowska (2007) conducted a three-year follow-up of the effects of three different versions of the *Triple P Positive Parenting Program*: Enhanced, Standard, and Self-Directed, which provided support for the long-term efficacy of a bibliotherapy model. The original study, conducted with low-income families whose children were demonstrating clinically elevated levels of disruptive behavior, examined differences between these three interventions at post-training and one-year follow-up. While there were some initial differences

between the groups immediately post intervention, at the three-year follow-up, a significant percentage of children in all three groups were diagnosis free, with approximately two-thirds of children across all conditions moving from clinical to non-clinical levels of behavior (Sanders et al., 2007). These findings provide additional evidence that self-directed or minimal assistance interventions can be effective in modifying child disruptive behavior.

Interestingly, the three studies described above were adapted from therapist-led behavioral parent training programs, each with a substantial evidence base showing them to be efficacious in reducing child disruptive behavior (Forehand et al., 2010; Lavigne et al., 2008; Sanders et al., 2007). Another parent training program with a solid evidence base for treating disruptive behavior is Parent-Child Interaction Therapy (PCIT). PCIT has recently seen initial evidence in support of a prevention-oriented bibliotherapy model (Berkovits et al., 2010), which will be described in more detail in the following section.

Parent-Child Interaction Therapy

Parent-Child Interaction Therapy (PCIT) is an evidence-based treatment designed to reduce disruptive behavior in young children, aged two to seven (Zisser & Eyberg, 2010). PCIT seeks to reduce child behavior problems by teaching parents skills to promote authoritative parenting, increased positive parent-child interactions, improved parental warmth and nurturance, and clear parent-child communication and limit-setting (Zisser & Eyberg, 2010).

PCIT has a strong theoretical grounding in three areas: attachment theory, social learning theory, and Baumrind's authoritative parenting model (Funderburk & Eyberg, 2011). From attachment theory, PCIT understands the need for a child to have a secure base from which to learn important self-regulation skills. This is why the first portion of PCIT emphasizes the creation of a warm, supportive relationship between child and caregiver. Social learning theory

emphasizes that a child's behavior is constantly being shaped by feedback from his or her environment, which is why PCIT emphasizes differential social attention and consistency in parents' interactions with their children (Zisser & Eyberg, 2010). Baumrind's authoritative parenting theory (Baumrind, 1967) is reflected in both portions of the PCIT curriculum, in that it emphasizes the importance of the warmth and nurturance created in the first portion of PCIT and the consistent limit-setting taught in the second half of the PCIT curriculum. This dual emphasis is a key feature of PCIT. The majority of the effective parenting interventions use similar principles from social learning theory, such as praise and general positive attention, to help parents reduce disruptive child behavior and create a more authoritative parenting style; however, PCIT takes this a step farther by providing parents with specific skills, in addition to praise and general attention, they can use to further engage their child. PCIT also provides direct coaching to help them implement those skills successfully (Nixon, 2002).

PCIT consists of two distinct phases, Child Directed Interaction (CDI) and Parent Directed Interaction (PDI). In the CDI phase, the emphasis is on building a warm relationship between parent and child by improving parental responsiveness and communication. During the CDI phase, parents are taught to follow their child's lead in play and reinforce desirable behaviors while using differential social attention to reduce unwanted child behaviors. The PDI phase focuses on teaching parents how to give effective, age-appropriate commands, to be consistent in their administration of consequences, and to effectively utilize a time-out procedure. PCIT is a mastery-based model, which means that parents continue to work in the CDI phase of treatment until they meet a pre-set mastery criteria and are allowed to move to the PDI phase. Parents then have to meet a second pre-set mastery criteria in the PDI phase before graduating from the program. Depending on how quickly the parent picks up the skills, the

length of engagement in PCIT can vary, with the average length of treatment being 10-20 sessions (Zisser and Eyberg, 2010).

PCIT has been demonstrated to be effective in reducing child disruptive behavior and improving parent stress and confidence levels in numerous studies (Bagner & Eyberg, 2007; Chase & Eyberg, 2008; Zisser and Eyberg, 2010) as well as in reviews and meta-analyses (Eyberg, Nelson, & Boggs, 2008; Thomas & Zimmer-Gembeck, 2007). Positive outcomes have been found with a variety of different populations including low-SES families (Lyon & Budd, 2010), Mexican American families (McCabe, Yeh, Garland, Lau, & Chavez, 2005), Chinese families in Hong Kong (Leung, Tsang, Heung, &Yiu, 2009) and even CDI with infants (Bagner, Rodríguez, Blake, & Rosa-Olivares, 2012).

In addition to demonstrating successful treatment outcomes across a variety of populations, PCIT also contains many of the important treatment elements set forth in the Moran et al. (2004) meta-analysis, in that it comes from a strong theoretical base, contains both measurable, concrete objectives as well as overarching aims, and targets simple parent behaviors for change. PCIT also fits with Kaminiski et al.'s (2008) meta-analytic findings, which indicated greater effect sizes associated with programs that taught parents to increase their positive interactions with their child, involved direct practice with the child as part of intervention, and taught emotional communication skills as well as consistent use of a time-out procedure.

Although PCIT has been shown highly effective for families who complete treatment, dropout rates of between 30-40% are commonly reported (Fernandez & Eyberg, 2009). This is not too surprising given that families who participate in PCIT experience the same common barriers that are faced in all treatments: finances, scheduling, transportation, potential social stigma, and lack of social support (Gross, Julion, & Fogg, 2001; Harrison, McKay, & Bannon,

2004). However, these dropout rates are problematic in that they seem to particularly affect lower income families (Fernandez, Butler, & Eyberg, 2011; Fernandez & Eyberg, 2009). Given that low-SES families are often at higher risk of experiencing higher levels of stressors and mental health problems, it is important that PCIT be modified to increase accessibility to these families.

To enhance the reach of PCIT to these families, as well as others facing significant barriers, a few studies have explored adapted/abbreviated versions of PCIT. Nixon, Sweeney, Erickson, and Touyz (2003) compared an abbreviated version of the PCIT curriculum (referred to as ABB) to the standard PCIT model in the treatment of preschoolers diagnosed with ODD. ABB treatment consisted of providing parents with a video that discusses and models the skills, and then five face-to-face sessions were interspersed with five 30-minute telephone consultations. In the standard condition, the researchers followed the manualized protocol, the only difference being that families were limited to 12 sessions. Their study found similar results between the two versions of PCIT, both of which demonstrated significant improvement over a waitlist control group in the reduction of parenting stress and reports of child disruptive behavior. Immediately after intervention, it appeared as if the standard intervention was slightly more effective; however, by the six-month follow up, there was no significant difference between the two PCIT versions. The authors state that their findings indicate that this shortened form of PCIT is a cost-effective and viable treatment alternative, which may be particularly useful for families facing extensive barriers to treatment (Nixon et al., 2003).

Although the abbreviated version of PCIT piloted by Nixon and colleagues appeared to reduce some barriers to treatment, it still required more time and resources than some families have. In 2010, Berkovits and associates piloted a modified version of PCIT with 30 mothers of 3-

to 6-year-olds in a primary care setting with the purpose of providing the first step in adapting PCIT as a prevention intervention. Families were eligible to participate if mothers reported their child was having disruptive behavior problems within one standard deviation above or below the mean on a standard behavioral inventory. Due to this criterion, children with behavior ratings in the clinical range were not eligible to participate in the study. Berkovits compared a four-session group model of PCIT (n = 17) to a bibliotherapy version referred to as PCIT- Anticipatory Guidance (PCIT-AG) (n = 13). Mothers in the bibliotherapy condition received the same written handouts as mothers in the four-session group, whereas mothers in the latter condition also had abbreviated exposure to the didactic sessions, modeling of PCIT skills, and therapist coaching during parent-child interactions. Although Berkovits and colleagues expected that participation in the group would result in more substantial changes in child behavior than the bibliotherapy model, they did expect some benefit from bibliotherapy based on previous bibliotherapy research. These authors found successful reduction of children's disruptive behavior using a bibliotherapy model based on the principles of PCIT. Contrary to the authors' initial expectations, both groups showed equivalent significant positive changes on parent rating measures of maternal stress, parental sense of control, and child behavior problems from pre to post treatment (Berkovits et al., 2010). Maintenance of gains was seen for both groups at six-month follow-up. In addition, maternal satisfaction as reported on the Therapy Attitude Inventory did not differ significantly between the two groups, nor was there a significant difference in the percentage of days that parents reported practicing the CDI and PDI skills at home. Further, the PCIT-AG group had a significantly lower attrition rate than the group participants and still saw similar results (Berkovits et al., 2010). Based on the findings, Berkovits recommended further study of the PCIT-AG materials with a larger sample.

The purpose of the proposed study is to examine the effectiveness of the PCIT-AG materials in a Randomized Controlled Trial. This study will compare PCIT-AG to a waitlist control group and will measure child disruptive behavior, parental stress, and parent sense of competence pre- and post-intervention/waitlist.

Rationale

The preceding review establishes that disruptive behavior problems in early childhood constitute a significant problem for children and their parents. The evidence also suggests that secondary prevention and early intervention are helpful in reducing the severity and chronicity of disruptive behaviors, and that parent-based interventions are an effective approach to alter disruptive child behavior. Parent training studies have demonstrated significant positive effects for several bibliotherapy models, and Berkovits and colleagues (2010) provided preliminary data to support the possible utility of a bibliotherapy version of PCIT. Although PCIT is a well respected and widely used approach for addressing childhood disruptive behavior disorders, traditional delivery of PCIT requires parents to attend weekly sessions for between 10-20 weeks, with a mean of 15 sessions (Zisser & Eyberg, 2010). For many families, especially those facing high levels of economic and other stressors, it can be difficult to commit to that number of sessions, as evidenced by moderately high dropout rates in PCIT efficacy and effectiveness studies.

The purpose of the proposed study is to further evaluate a specific PCIT-based bibliotherapy curriculum, PCIT-AG, by conducting a randomized control trial comparing change over time between two groups of participants: Caregivers who receive the PCIT-AG materials and waitlist control caregivers. The study will examine the effects of PCIT-AG on caregiver ratings of child behavior problems, parenting stress levels, and confidence in their ability to

effectively parent their child. The results of this study will provide further information about the utility and limits of bibliotherapy in reducing disruptive child behavior and improving parent competence and stress levels. In short, it will provide valuable information on the ability of a bibliotherapy program built on PCIT to serve as a secondary prevention intervention.

Statement of Hypotheses

Hypothesis I. There will be a main effect of treatment; caregivers who receive the PCIT-AG materials will report decreased levels of child behavior problems from pre to post assessment, whereas participants in the waitlist control condition will not.

Hypothesis II. There will be a main effect of treatment; caregivers who receive the PCIT-AG materials will report decreased parenting stress and an increased sense of competence in their ability to parent, whereas participants in the waitlist control condition will not.

Method

Participants and Settings

The participants for this study consisted of 37 caregivers of 3- to 6-year-old children (i.e., 36 to 83 months) in metropolitan Chicago. Caregivers were recruited using flyers posted at various childcare and social service agencies throughout the Chicago area, including preschools, Head Starts, daycare programs, afterschool programs, and pediatricians offices. Flyers were also posted in businesses and public agencies, such as coffee shops, laundromats, and public libraries. Caregivers were also recruited in person by setting up an information table in the lobby of childcare agencies and speaking at parent meetings. Caregivers who were interested in learning new parenting techniques were invited to the table areas to speak with the principal investigator or a research assistant for more information. Sites were selected to access families of diverse ethnic and socio-economic backgrounds.

Potential participants were told that the study was designed for caregivers with concerns about their child's disruptive behavior and who are interested in learning techniques to manage behavior and strengthen their relationship with their child. Caregivers were required to be comfortable reading in English, have legal custody of their child, and be considered a primary caregiver at least 50% of the time each month. Exclusion criteria include children diagnosed with a moderate or severe developmental disability, children with a current mental health diagnosis, and families currently receiving parent-training services. Caregivers who verbally stated that they met these eligibility criteria and provided research consent were enrolled in the study.

Sixty-four caregivers expressed interest in participating in the study during the in person recruitment sessions or via phone (after they had seen a flyer). Of these 64 participants 47 were reached for follow up and consented to participate in the study. Thirty-eight participants went on to complete the pre-measures, and 37 of these were randomly assigned to one of the study groups. The 38th person contacted the primary investigator and, after a brief conversation, was deemed to be in need of in-person clinical services and was provided an appropriate referral. Of the 37 participants assigned to groups, 31 completed post-measures and were included in the analyses. The six participants, who dropped out between group assignment and post measure completion, were all members of the treatment group. One notified study staff she was unable to complete the study due to time constraints, the other five dropped out of contact and were unresponsive to requests for post-measure completion.

Materials

The bibliotherapy materials being used in this study are called Parent-Child Interaction Therapy – Anticipatory Guidance (PCIT-AG). Dr. Michelle Berkovits developed these materials in conjunction with Dr. Sheila Eyberg for use in her dissertation study (Berkovits et al., 2010),

described in the introduction of this proposal. The PCIT-AG materials are composed of educational handouts that contain written descriptions of the CDI and PDI skills and offer suggestions for how parents can learn to use these skills with their children. In addition to teaching the basic fundamentals of PCIT, PCIT-AG provides tip sheets on parent modeling, the use of behavior tools such as sticker charts, and information on topics related to parenting, such as the importance of parent social support. In addition to these materials, the primary investigator developed a welcome letter, which provided a brief introduction to the purpose of the materials, a calendar providing suggested guidance about the pace of engaging with the materials, and homework sheets to record their practice of CDI and PDI skills each week. The welcome letter and calendar are included in Appendix A; the homework sheets are described in more detail below.

Measures

Demographic Questionnaire: a brief two-page set of questions pertaining to the child's age, grade in school, caregiver education level, income, age, and ethnicity. See Appendix B.

Eyberg Child Behavior Inventory (ECBI; Eyberg & Pincus, 1999): a 36-item parent-report measure designed to assess behavior problems in young children. There are two scales, the Intensity Scale and the Problem Scale. The Intensity Scale measures the frequency of various types of disruptive behavior as endorsed on a 7-point scale from "Never" to "Always," where higher scores indicate more disruptive behavior. The Problem Scale is composed of "Yes/No" questions regarding whether parents consider the behaviors to be a problem. For example, the parent is asked to rate how often the child "refuses to go to bed on time" and then to rate if that behavior is a problem for them. Intensity Scale scores on this measure can range from 36 to 252. Problem scale scores range from 0-36. In a low risk community sample of preschoolers, the

Intensity Scale was found to have a mean score of 95.7 with a standard deviation of 19.2, while the Problem Scale had a mean score of 4.9 and a standard deviation of 5.0 (Funderburk, Eyberg, Rich, & Behar, 2003). The clinical cut-off is an Intensity score greater than 131 and a Problem score greater than 15. Test-retest reliability of .80 at 12 weeks and .75 at 10 months has previously been demonstrated (Funderburk, Eyberg, Rich, & Behar, 2003). The ECBI has demonstrated content and discriminant validity and has good internal reliability ($\alpha = .94$ for Intensity Scale and $\alpha = .93$ for Problem Scale) (Eyberg & Pincus, 1999). In addition to reliably differentiating between clinical and nonclinical populations, the ECBI has demonstrated sensitivity to measuring changes in sub-clinical levels of behavior problems (Brestan, Eyberg, Boggs, & Algina, 1997). The ECBI has been used successfully with a variety of populations of different ethnic, SES, and geographical composition (Lyon & Budd, 2010; McCabe et al., 2012; Phillips, Morgan, Cawthorne, & Barnett, 2008).

Parenting Stress Index-Short Form (PSI-SF; Abidin, 1995): a 36-item parent-report instrument, which assesses the parent-child relationship through three scales: Parental Distress, Parent-Child Dysfunctional Interaction, and Difficult Child, in addition to providing a summary score of Total Stress. The analyses for the current study are based on the Total Stress score. For the majority of the questions, parents are asked to rate statements on a scale of one (*strongly disagree*) to five (*strongly agree*). Higher scores indicate greater levels of parent stress, with a Total Stress score over 90 indicative of clinically significant levels of parent stress (Abidin, 1995). A sample item from the Parental Distress subscale is, "I often have the feeling that I cannot handle things very well." A sample from the Parent-Child Dysfunctional Interaction scale is, "When I do things for my child, I get the feeling that my efforts are not appreciated very much." A sample item from the Difficult Child scale is, "My child seems to fuss or cry more

often than most children." The PSI-SF has shown good test-retest reliability (0.84) and excellent internal consistency (alpha = .91) (Abidin, 1995). In addition, an examination of the measure conducted with low-income families of a variety of ethnicities found very good internal consistency, with an alpha coefficient of .91 for the Total Stress score and alphas for the subscale scores ranging from .88-.89 (Reitman, Currier, & Stickle, 2002). This study also found further support for the three-factor model (Reitman, Currier, & Stickle, 2002).

Parental Sense of Competence (PSOC; Johnston & Mash, 1989). The PSOC is a 16-item measure designed to assess parental self-efficacy (confidence and belief in oneself as a parent) and satisfaction (comfort with the job he/she is doing as a parent). Items on two subscales, Efficacy and Satisfaction, are rated on a scale from 1 (*strongly agree)* to 6 (*strongly disagree*). Scoring is reversed for the Efficacy subscale so that higher scores on both subscales are indicative of greater parenting competence. Sample items from the Satisfaction subscale are, "Even though being a parent could be rewarding, I am frustrated now while my child is at his/her present age," and "I go to bed the same way I wake up in the morning, feeling I have not accomplished a whole lot." Sample items from the Efficacy subscale are, "I honestly believe I have all the skills necessary to be a good mother/father to my child," and "I meet my own expectations for expertise in caring for my child." Johnston and Mash (1989) showed that the total PSOC as well as the two subscales have adequate levels of consistency and reliability. Total PSOC scores were used for the current analyses. Johnston and Mash (1989) found average Total scores for young children (4-6 year olds) on the PSOC ranged from 63.00 – 65.19, depending on gender of the child and which parent completed the scale, with fathers having slightly higher ratings for both genders of children. A study by Hesse, Danko, and Budd (2013) used the PSOC to measure parental sense of efficacy and satisfaction as it related to parenting a child with

autism between the ages of four and ten. This study found the total PSOC to have a Cronbach's alpha level of .85, the efficacy subscale had an alpha of .79, and the satisfaction scale alpha was .78 (Hesse et al., 2013).

PCIT-AG Utility and Satisfaction Rating Scale. This measure was developed for this study by the principal investigator. The measure consists of four Likert rating scale format questions that ask caregivers about how helpful they found the PCIT-AG materials, how much change they saw due to the materials, whether they would recommend the materials to friends or family, and how satisfied they were with the results of PCIT-AG. Five multiple choice questions ask how much time caregivers spent reading the materials, which sections they read, which sections they found most helpful and unhelpful, and how many days each week they completed homework. There is also an open-ended question, which asks participants for suggestions how the materials might be made more useful for them. This measure was given post-treatment to those who participated in the experimental condition. See Appendix C.

Homework (Eyberg and Child Study Lab, 1999). Homework is part of the standard PCIT protocol and is also recommended to parents in the PCIT-AG materials. Homework consists of daily 5-minute "special time," during CDI in which parents play with their child and practice following their child's lead while using the PRIDE skills, the specific play therapy skills taught to parents in the CDI phase, as well as differential attention. During the PDI phase of treatment, parents are asked to continue the 5-minute special time activity and add an additional 10-minute activity in which the parent leads the play and practices giving effective commands and appropriate consequences, while also using their PRIDE skills. Parents in the PCIT-AG group were given six CDI homework sheets and five PDI homework sheets from the PCIT treatment manual (Eyberg and Child Study Lab, 1999) and asked to record whether they completed their

assigned homework each day, what activity/toy/game they played with during the homework time, and if any questions arose that could not be answered by the PCIT-AG materials. Parents were asked to complete CDI every day for one week and then complete daily CDI and PDI homework for five weeks. The parents were encouraged to initially focus exclusively on their CDI skills, similar to in-person PCIT, in order to build on their relationship with their child before beginning PDI. See Appendix D.

Procedures

Caregivers who indicated an interest in the study during recruitment sessions or contacted the researcher independently (after viewing a flyer or hearing about the study by word of mouth) were screened to ensure they met the eligibility criteria. For caregivers who see the information table at a recruitment event, a member of the research team introduced the study and gathered basic information to ascertain if the caregiver met the basic eligibility requirements to participate in the study. If eligibility requirements were met, staff explained the information in the consent form, answered parent questions, and asked parents if they would like to participate in the study. For caregivers who contacted the researcher independently, they were screened and consented over the phone.

Once consent forms were completed, caregivers were asked to fill out the initial measures packet, which consisted of the Demographics Questionnaire, ECBI, PSI-SF, and PSOC. Measures could be completed online, using an emailed link, over the phone, or in person. Measures took approximately 30-40 minutes to complete. Once measures were completed, they were checked for missing answers. Research assistants followed up, by contacting participants to determine if missing answers were left blank on purpose or if the participant would like to provide an answer.

Once the researcher determined the measures were completely filled out, the caregiver was randomly placed into either the PCIT-AG group or the waitlist control group. Randomized assignment was accomplished through the selection of pre-sealed numbered envelopes, each containing a paper that said either "PCIT-AG" or "Waitlist Control." When the first participant completed their measures, the envelope labeled "1" was be opened, and the participant was placed in the group listed on the slip of paper in that envelope. The same procedure was conducted for participants 2-37.

Participants assigned to the PCIT-AG group were emailed and mailed the PCIT-AG materials, introduction letter, calendar, and six CDI homework sheets and five PDI homework sheets. Participants were offered the opportunity to schedule a brief phone call to help familiarize them with the materials; only three participants followed up with the scheduling and completion of that call. Post measures were scheduled to be completed six weeks after the participant was given the PCIT-AG materials. The researcher obtained contact information from the caregiver when they initially expressed interest in the study. Information was placed on the Contact Information Sheet (see Appendix E). This contact information was used to email the participant a reminder when they were five weeks into the study that they were nearing the end of the study. Participants were reminded of the method used to complete their pre measures - - online, over the phone, or in person - - and asked if they would prefer to use the same method to complete the post measures. Participants who responded to the initial post measure email were administered the post-measures by the method they requested. However, even if no response was obtained to the initial post measure email, participants were emailed the link to the appropriate set of post measures 2-3 days before the 6-week mark and asked to complete them as soon as possible. Once participants completed the follow-up measures, they were checked for missing responses.

Once measures were determined to be complete, the participant received a thank you note and a $50 dollar Target gift card.

Participants assigned to the waitlist control group, were notified of their assignment by their preferred method of contact, either by phone or email. They were informed they would be contacted to complete their post measures in six weeks, after which they would receive the PCIT-AG materials, including the introduction letter, calendar, and homework sheets, and a $50 Target gift card.

Both groups of participants were given contact information for the primary investigator and told they could call at any point during the study if they had any questions. No calls were received by the primary investigator from participants in either group during the course of the study, except for a few calls asking about delays in receiving mailed materials.

Results

Demographics

Demographic characteristics for the 31 participants whose data were used in the analyses are presented in Table 1. There were no significant differences between the two groups on income, child or parent age, or any of the initial measure scores.

Table 1
Demographic Characteristics of Participants and Related F statistics by Group

	Waitlist (n = 17)	PCIT-AG (n = 14)	$F(df)$	p
Child Age	M = 3.76 SD = 1.10	M = 3.14 SD = 1.10	2.48(1)	.13
Child Gender				
Male	6	10		
Female	10	4		
Child Ethnicity				
Asian American or Asian	2	1		
African American, African, or Black	8	4		
Latino or Hispanic	3	1		
European American or	1	5		

White				
Multi-Ethnicity	2	3		
Caregiver Age	*M* = 30.88	*M* = 31.43	.053(1)	.82
	SD = 6.73	*SD* = 6.32		
Caregiver Gender				
Female	14	13		
Male	3	1		
Caregiver Ethnicity				
Asian American or Asian	2	1		
African American, African, or Black	9	4		
Latino or Hispanic	3	2		
European American or White	2	7		
Multi-Ethnicity	1	0		
Yearly Family Income			3.17(1)	.09
Under $30,000	12	6		
$30,00 – $100,000	3	3		
Over $100,000	2	5		
Pre ECBI score	*M* = 118.74	*M* = 134.85	2.40(1)	.13
	SD = 30.39	*SD* = 26.80		
Pre PSI-SF score	*M* = 86.00	*M* = 86.87	.01(1)	.91
	SD = 23.89	*SD* = 18.78		
Pre PSOC score	*M* = 65.26	*M* = 63.20	.26(1)	.61
	SD = 12.76	*SD* = 8.80		

Note. PCIT-AG = Parent Child Interaction Therapy – Anticipatory Guidance. ECBI = Eyberg Child Behavior Inventory. PSI-SF=Parenting Stress Index – Short Form. PSOC=Parental Sense of Competence.

To address dropouts in the study, a MANOVA was run to compare whether there were any significant differences in demographic characteristics (child age, parent age, and parent income) or the initial scores on the ECBI, PSI-SF, and PSOC between those who dropped out of the study and those who did not. The Wilks' Lambda statistic for the MANOVA was not significant, $F(6, 30) = .39$, $p = .88$, which means there are no significant differences between those who dropped out of the study and those who completed.

Research assistants collected the majority of missing data directly from the participants shortly after they completed their measures. However, in spite of best efforts, 11 participants were still missing one or two responses in questionnaires. Given the small amount of missing

data, item-level person mean imputation was chosen as the most appropriate way to address this missing data (Downey & King, 1998).

Correlations and Satisfaction Data

Correlations between dependent variables are presented in Table 2. Examination of the correlations indicates moderate stability between pre and post assessments of child behavior. The correlations show high levels of stability from pre to post for both parent sense of competence and parenting stress. These parent outcomes are also closely correlated with one another in the expected direction.

Table 2
Pearson Correlation Matrix for Outcome Variables at Pre and Post Assessments

	1	2	3	4	5	6
1. Pre ECBI	1					
2. Pre PSI-SF	.64**	1				
3. Pre PSOC	-.59**	-.83**	1			
4. Post ECBI	.42*	.32	-.30	1		
5. Post PSI-SF	.50**	.78**	-.73**	.63**	1	
6. Post PSOC	-.46*	-.63**	.81**	-.49**	-.81**	1

Note. $N = 31$. ECBI = Eyberg Child Behavior Inventory. PSI-SF=Parenting Stress Index – Short Form. PSOC=Parental Sense of Competence.
* $p < .05$. ** $p < .01$.

The 14 caregivers who received the PCIT-AG materials were asked to complete the PCIT-AG Utility and Satisfaction Rating Scale to provide information about their experience and satisfaction with the materials. This was done in order to confirm caregivers found the materials acceptable. Table 3 shows the average ratings for the four multiple choices questions. Overall, caregivers rated the materials as Helpful or Very Helpful, reported the materials had Somewhat changed the interactions with their child, were Satisfied to Very Satisfied with the materials, and

were Likely to Very Likely to recommend the materials to a friend. In addition caregivers stated they spent an average of 2-4 hours per week using the materials. Eleven of the 14 participants who finished the study reported on homework completion and stated they performed the recommended homework 3-4 days out of the week.

Table 3
Responses from Utility and Satisfaction Rating Scale from Participants in Intervention Group

Question	**Average Rating**
How helpful you found the materials	4.43
How much materials changed interactions with child	3.93
How satisfied they were with the materials	4.36
How likely to recommend to a friend	4.71

Note. Questions were rated on a 5-point scale where 1 is "not at all" and 5 is "very much.

Changes in Child Behavior

The first hypothesis was that there would be a main effect for the treatment group such that caregivers who received the PCIT-AG materials would report decreased levels of child behavior problems on the ECBI. A 2 (Condition) x 2 (Time) Repeated Measures Analyses of Variance (RM ANOVA) was conducted to assess for differences between the treatment group and the waitlist control group. Power was good (.90) to detect moderate to large effect sizes with the sample size $N = 31$. It was not necessary to check for violations of sphericity (Mauchly's test) since there are only two conditions in this study and three levels are required for sphericity to be a concern.

The main effect of Time was significant, $F(1,29) = 6.67$, $p = .02$, suggesting decreases in child behavior problems from pre to post assessment for the overall sample. However, this main effect is qualified by a significant Time X Condition interaction effect, $F(1,29) = 5.45$, $p = .03$,

suggesting that the reductions in ECBI scores from the initial to the final assessment were significantly larger for the PCIT-AG group as compared to the waitlist control group. Table 4 provides group means for the pre and post ECBI scores. To follow up on the significant *F* value, Cohen's *d* was calculated as an estimate of effect size, using the *M* and *SD* for the change in ECBI scores from pre to post for the two groups. The calculated effect size was *d* = -.86, which is considered a large effect size.

Table 4
Mean Scores for Child Outcome Measure Across Time

	Pre ECBI		Post ECBI		ECBI Change	
	M	*SD*	*M*	*SD*	*M*	*SD*
Waitlist (*n*=17)	118.74	30.39	117.41	32.76	1.32	33.88
PCIT-AG (*n*=14)	134.85	26.80	108.42	25.47	26.42	23.77

Note. PCIT-AG = Parent Child Interaction Therapy – Anticipatory Guidance. ECBI = Eyberg Child Behavior Inventory.

Changes in Parent Behavior

The study's second hypothesis was that there would be a main effect for the treatment group such that caregivers who receive the PCIT-AG materials will report decreased parenting stress on the PSI-SF and an increased sense competence on the PSOC. A 2 (Condition) x 2 (Time) x 2 (Measure) Repeated Measures Multivariate Analyses of Variance (RM MANOVA) was conducted to assess for differences between the treatment group and the waitlist control group. Power was modest (.70) to detect large effect sizes with the sample size *N* = 31.Again, it was not necessary to check for violations of sphericity (Mauchly's test) since there are only two conditions in this study and three levels are required for sphericity to be a concern.

No significant Time X Condition interaction effects were found, $F(1,29) = 1.02$, Wilk's $\lambda = .97$, $p = .32$. This suggests that the PCIT-AG group did not experience improved parenting

outcomes after treatment, as compared to the waitlist control group. However, there was a significant main effect of Time, $F(1,29) = 4.62$, Wilk's $\lambda = .86$, $p = .04$. The significant main effect for Time indicates both groups saw a significant change on the parenting outcomes between pre and post assessment. Table 5 provides group means for the initial and final PSI-SF and PSOC scores. The findings of the RM MANOVA indicate that caregivers in our sample reported a significant decrease in parent stress levels and significant increases in parent sense of competence from the initial to final assessment, regardless of group assignment. Because this change was not related to group assignment, it is unlikely to be the result of using the PCIT-AG materials.

Table 5
Mean Scores for Parent Outcome Measures Across Time

	Initial PSI-SF		Final PSI-SF		Initial PSOC		Final PSOC	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Waitlist (*n*=17)	86.00	23.89	80.92	24.10	65.26	12.76	68.15	11.12
PCIT-AG (*n*=14)	86.87	18.78	76.29	16.69	63.20	8.80	67.71	8.73

Note. PCIT-AG = Parent Child Interaction Therapy – Anticipatory Guidance. PSI-SF=Parenting Stress Index – Short Form. PSOC=Parental Sense of Competence.

To obtain further information about the change in parent scores in the sample, correlations were run between a change score calculated to reflect improvement in the PSI-SF and PSOC scores and several variables hypothesized to be related. For the PSI-SF the change score was calculated by subtracting the final measure score from the initial measure score. For the PSOC, where an increased score signifies improvement, the initial measure score was subtracted from the final measure score. In the total sample, there were moderate correlations

found between the PSI-SF change score and income (r = -.35, p = .05), initial PSI-SF score (r = .36, p < .05), the ECBI change score (r = .63, p < .01), and the PSOC change score (r = .68, p < .01). For the PSOC, there were moderate correlations found between the PSOC and child age (r = -.39, p < .05), parent age (r = -.39, p < .05), initial PSI-SF score (r = .44, p < .05), initial PSOC score (r = -.45, p < .05), and the ECBI change score (r = .48, p < .01). Table 6 provides a complete list of the correlations run.

Table 6
Correlations for PSI-SF and PSOC change score and other variables

	Child Age	Parent Age	Income	Initial ECBI	Initial PSI-SF	Initial PSOC	ECBI Change Score	PSI-SF Change	PSOC Change
PSI-SF Change	-.22	-.15	-.35*	.24	.36**	-.19	.63***	1.00	.68***
PSOC Change	-.39**	-.39**	-.24	.29	.44**	-.45**	.48***	.68***	1.00

Note. N = 31. ECBI = Eyberg Child Behavior Inventory. PSI-SF=Parenting Stress Index – Short Form. PSOC= PSOC=Parental Sense of Competence. * p < .10. **p < .05. *** p < .01.

Discussion

Disruptive behavior is a significant problem in early childhood that increases family stress, parent-child conflict, and risk for later externalizing behaviors (Eyberg, Boggs, & Rodriguez, 1993; Shaw, Gilliom, & Giovannelli, 2000). Thus, it is critical to identify strategies that address disruptive behaviors before they become entrenched and require clinical intervention, that are also accessible to broader segments of the population. The purpose of the current study was to assess the effectiveness of a set of bibliotherapy materials based on the principles of Parent-Child Interaction Therapy (PCIT) in helping caregivers reduce their child's disruptive behavior, while also improving parent stress levels and parental sense of competence. The results of the current study demonstrated that use of the PCIT-Anticipatory Guidance (PCIT-AG) materials resulted in a significant decrease in child disruptive behavior compared to the control group. However measures assessing parent stress levels and parent sense of competence

did not support the superior efficacy of PCIT-AG, although the participants as a whole reported significantly improved parenting outcomes from pre to post assessment. Initial results of the satisfaction survey show that, overall, parents found the materials helpful, felt they somewhat changed their interactions with their child, were satisfied with the materials, and considered themselves likely to recommend them to a friend.

The first proposed hypothesis, that there would be a main effect for the treatment group as demonstrated by caregiver ratings on the ECBI, was upheld. This finding is comparable to the findings of Berkovits and colleagues (2010), whose participants also rated improved child behavior on the ECBI after utilizing the PCIT-AG materials. The current study had a demonstrated effect size of d = .86, which is slightly higher than the d = .63 effect size found in the Berkovits's study (2010). This difference may be explained by recruitment criteria: the current study allowed for participants with a broader range of ECBI scores than the Berkovits et al (2010) study, including children in the clinical range. It is possible that this could contribute to a higher effect size, as children in the clinical range could feasibly see significantly larger decreases in their scores from pre to post-treatment, given how high they started compared to children who were initially in the at risk range. While it is difficult to compare results directly between studies using different bibliotherapy treatment protocol, findings are generally consistent with those reported by Lavigne and colleagues (2008) using the Incredible Years protocol, as well as Sanders, Bor, and Morawska (2007) using the Triple P Parenting Program protocol. These studies assessed the utility of bibliotherapy with children who scored in the clinical range on the ECBI and reported moderate to large improvement from pre to post assessment. The effect size for the current study was in between the two effect sizes reported by Sanders, Mothers d = 1.28, Fathers d = .50. The current study extends previous findings by

comparing bibliotherapy to a waitlist control group, whereas Lavigne et al. (2008) and Berkovits and colleagues (2010) compared bibliotherapy to in-person adaptations of the protocol. Sanders and colleagues (2007) did use a waitlist in their original study; however, they were examining a different set of materials than the current study.

The significant change in ECBI scores for the intervention group is not surprising, since the PCIT-AG materials have many of the characteristics Moran and colleagues (2004) identified in their meta analyses as components of successful interventions: the PCIT-AG materials have a strong conceptual theory, have measurable, concrete objectives and overarching aims, and they focus on increasing parent knowledge about child development and changing simple, concrete parenting behaviors (Moran et al., 2004). The PCIT-AG materials also match Kaminiski et al.'s (2008) meta-analytic findings, which indicated greater effect sizes associated with programs that taught parents to increase their positive interactions with their child, involved direct practice with the child as part of intervention, and encourage consistent use of a time-out procedure.

Research studies of Parent-Child Interaction Therapy have demonstrated that post-treatment changes in child behavior correspond to changes in caregiver behavior, including more consistent use of consequences and increased use of positive engagement skills (Bagner & Eyberg, 2007; Chase & Eyberg, 2008; Zisser and Eyberg, 2010). Thus, it is likely that children's improved outcomes post-treatment are, at least in part, due to the caregiver's use of the parenting strategies included in the PCIT-AG materials. This explanation is consistent with caregiver reports via questionnaire that the materials changed their interactions with their child and they engaged in Special Time with their child 3-4 day a week. An alternative explanation for our findings is that the materials changed caregivers' perceptions of child behavior, rather than led to actual change in child behavior. To address this issue, future research should use the observation

based behavioral coding (e.g., Dyadic Parent-Child Interaction Coding System, DPICS) to determine if the PCIT-AG materials lead to changes in parenting behaviors.

The study's second hypothesis, that caregivers in the treatment group would report decreases in their stress levels and increases in their sense of competence, was not supported. Both groups reported significant improvement in parent stress and parent sense of competence over the course of the study; however, there was no additional benefit for the participants who received the PCIT-AG materials. This finding is inconsistent with Berkovits et al's (2010) study, which found significant change in PSI-SF scores after PCIT-AG treatment with a similar size sample of caregivers with normative levels of parenting stress. It is unclear why participants in the treatment group did not experience significant improvements in parenting outcomes in response to their participation in PCIT-AG. It may be that the study sample size was too small to detect a significant effect, even if it was present for the two parent scales. Post-hoc correlational analyses showed that larger decreases in parental stress were associated with higher initial PSI scores, lower income, and decreases in child behavior problems from pre- to post-assessments; thus, the slightly higher income level of the treatment group may have influenced results. Correlational analyses also showed larger increases in parent competence were associated with younger parental age, younger child age, higher initial stress scores, lower initial competence scores, and increased improvement in child behavior and parent stress levels.

The caregiver satisfaction findings for the current study are comparable to those found in the Berkovits et al. study (2010). However, they also build off the findings by Harwood, O'Brien, Carter, and Eyberg (2009) who found mothers whose children's behavior problems were below the clinical range, preferred bibliotherapy to clinician-directed interventions, but the reverse was found for mothers who had children with clinical levels of disruptive behavior.

While there are not enough participants in the current study to determine if there were differences in parent ratings based on ECBI scores, satisfaction scores were generally high and included children with a range of ECBI scores. It should be noted that while satisfaction ratings were generally high (ranging between 4 and 5 on a 5-point scale), parents were more ambivalent about the way the materials changed their interactions with their child (average of 3.93 on a 5-point scale). The rate of CDI homework completion in the current study was an average of 3-4 days/week (a range of 43% – 57%), which is similar to the reported completion of CDI homework 39% in Berkovits et al. (2010) study.

Part of the reason for the recent increased interest in self-directed interventions, has been as a means to increase access to intervention for families who face too many barriers to complete in person therapy. The dropout rate for the current study was 16% across study, however, given that all the participants who dropped out of the study were from the intervention group, 30% is a more accurate dropout rate. This dropout rate of 30% is considerably higher than that found in many of the other studies of bibliotherapy models. In Berkovits and colleagues study, the PCIT-AG group only had one person dropout between pre and post, which is an 8% dropout rate. Lavigne et al. (2008) had a dropout rate of 13% from their bibliotherapy group, which is comparable to the 18% of participants who dropped out of Self-Directed condition of Triple P (Sanders, Bor, & Morawska, 2007). Forehand, Merchant, Long, and Garai (2010) had only a 2% dropout rate, however the authors' report 30% did not read the entirety of the bibliotherapy materials. It is impossible to know why people dropped out of the current study. It could be that they were not motivated to complete their post measures after already receiving the PCIT-AG materials. It could also be that the caregivers did not have enough time to explore the materials and became reluctant to complete the post measures, or that the caregivers did not agree with

principles in the PCIT-AG materials or felt they were too similar to procedures they had already tried, and were therefore uninterested in continuing in the study.

There are several significant limitations to the current study. The most significant is the small sample size, particularly in that it limits the ability to assess if the utility of the PCIT-AG materials differs based on different demographic factors. This is particularly problematic given that all the dropouts in the study were from the PCIT-AG group. The second limitation of the study is that materials were only offered in English. Several recruitment sites stated they had families interested in participating, but they were primarily Spanish speaking. This ties in to a third difficulty with the study, which was recruitment. A large number of fliers were distributed both in person and through display in public areas. However, the return rate was very small. It is unclear, why so few families expressed interest in the study. One possibility could be the promotion materials were not eye catching enough to capture potential participant's attention. A second alternative could be linked to the prevention focus of the study. It may be that families in our target range were not experiencing high enough distress from their child's behavior to take the step of contacting the study. A fourth limitation is in the assessments used to measure change. While the current study asked caregivers to report the amount of time spent reviewing the materials and completing homework each week, there was no validated measure included which would determine if the improvement in child behavior was due to parent use of PCIT specific skills. Future studies should obtain pre and post measures of PCIT specific skills, using the Dyadic Parent-Child Interaction Coding System (DPICS). Use of DPICS as a pre and post assessment would also be beneficial in that it would provide an objective measure of child behavior change. The current study only assessed parent report of child behavior change, so it is

unknown whether the significant change on the ECBI is representative of an actual change in child behavior or rather a change in the parent's perception of the child's behavior.

Despite its limitations, the current study is the first randomized controlled trial to demonstrate that PCIT-AG results in significant reduction in parent-reported child disruptive behavior when evaluated in a waitlist control randomized design. This study builds on previous findings that found significant change in comparison to another untested adaptation of PCIT. Given that the PCIT-AG materials are very low cost to distribute and require no clinician time to be implemented, they could fill a significant gap in services for families who are experiencing challenges with their child, but are unable or unwilling to enroll in more time-intensive in-person services. With continued investigation and validation, PCIT-AG has the potential to become a powerful secondary prevention strategy to help parents manage child disruptive behavior problems.

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Appendix A

Introduction Letter and Calendar

Welcome to the Parent Child Interaction Therapy – Anticipatory Guidance (PCIT-AG)

This packet of materials includes educational handouts with written descriptions of the skills used in Parent Child Interaction Therapy (PCIT). It offers suggestions for how to use these skills to improve your relationship with your child and manage behavior problems. In addition to teaching you the basics of PCIT, the PCIT-AG materials provide tip sheets on how to be a positive model for your kids, how to use behavior tools such as sticker charts, and the importance of taking time for yourself.

The goal of these materials is to provide you with ways to strengthen your relationship with your child and several options for effective discipline techniques.

How to use the materials:
You are welcome to use these materials in any way that is convenient for you. You can read the entire manual at one time, or you can focus on one section at a time over the next few days or weeks. Here is a suggested schedule:

- **Week 1**: Start at the beginning with the Child Directed Interaction (CDI) skills.

  As you read this section, think through the different PRIDE skills and how you could use them with your child. As with any new skills, the PRIDE skills may feel a little awkward at first, but with practice will become more natural. Decide the best time and place to have Special Time and which toys would work best for Special Time.

  Make sure that you take 5 minutes to have Special Time every day. Practice using your PRIDE skills and avoiding Questions, Comments, and Negative Talk. Notice the positive ways your child responds when you use the PRIDE skills and your child has your undivided attention. Be sure to track your Special Time practice on the homework sheets provided. You will be asked about your rate of homework completion at the end of the study.

- **Week 2**: Read (or reread) the Parent Directed Interaction (PDI) sections of the materials.

  During this first week of practicing the PDI skills, only use them during a 5-minute clean-up time following Special Time. This allows you to get used to this new way of giving commands. This also gives you time to learn the different steps of the Time-Out procedure.

- **Week 3**: Start using the Time-Out procedure for commands given outside of the 5-minute clean-up time (any commands given during the day).

  Continue to focus on giving effective and age-appropriate commands. Remember to only give commands at times when it is truly important that your child follows through with the action you request. Too many commands will frustrate both you and your child.

- **Week 4**: Start using the House Rule procedures.

  Don't forget to continue having Special Time for five minutes each day. Special Time is extremely important to continue building and strengthening a warm and caring relationship with your child.

- **Week 5**: Continue to sharpen your CDI and PDI skills.

  This is also a good time to try out some of the other discipline strategies included in the PCIT-AG handouts, if they are applicable to you and your child.

- **Week 6**: Focus on generalizing your CDI and PDI skill use throughout the day.

  Continue to have regular Special Time, but also expand your use of the CDI skills throughout the day, to emphasize all the positive behaviors your child engages in.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Week 1						
Read PCIT_AG CDI materials Begin Special Time	Special Time	Special Time	Special Time	Special Time	Special Time	Special Time
Week 2						
Read or review PDI materials Continue Special Time	Special Time Clean-up PDI practice	Special Time Clean-up PDI practice	Special Time Clean-up PDI practice	Special Time Clean-up PDI practice	Special Time Clean-up PDI practice	Special Time Clean-up PDI practice
Week 3						
Continue Special Time Generalize PDI	Special Time Generalize PDI	Special Time Generalize PDI	Special Time Generalize PDI	Special Time Generalize PDI	Special Time Generalize PDI	Special Time Generalize PDI
Week 4						
Continue Special Time Begin House Rules	Special Time Try House Rules	Special Time Try House Rules	Special Time Try House Rules	Special Time Try House Rules	Special Time Try House Rules	Special Time Try House Rules
Week 5						
Continue Special Time Continue House Rules	Special Time House Rules	Special Time House Rules	Special Time House Rules	Special Time House Rules	Special Time House Rules	Special Time House Rules
Week 6						
Continue Special Time Continue House Rules	Special Time House Rules	Special Time House Rules	Special Time House Rules	Special Time House Rules	Special Time House Rules	Special Time House Rules Post-Survey

Appendix B

Demographic Questionnaire

Demographic Questionnaire

Please fill in the blanks below about your child and yourself.

ABOUT YOUR CHILD (The one with whom you are participating in the study):

1. What is your child's age: _____ years _____ months

2. What is your child's gender? _____ Boy _____Girl

3. What grade in school is your child currently in?
   - (1) Not in school
   - (2) Daycare
   - (3) Preschool
   - (4) Kindergarten
   - (5) 1st Grade

4. What is your child's ethnicity?
   - (1) American Indian or Native American
   - (2) Asian American or Asian
   - (3) African American or Black
   - (4) Latino or Hispanic
   - (5) European American, White, or Caucasian (not Hispanic)
   - (6) Mixed; Parents are from two or more different groups
     Please specify _____
   - (7) Other ethnicity not included here
     Please specify: _____

ABOUT YOURSELF – PRIMARY CAREGIVER

5. What is your age? _____years

6. What is your ethnicity?
   - (1) American Indian or Native American
   - (2) Asian American or Asian
   - (3) African American or Black
   - (4) Latino or Hispanic
   - (5) European American, White, or Caucasian (not Hispanic)
   - (6) Mixed; Parents are from two or more different groups
     Please specify _____
   - (7) Other ethnicity not included here
     Please specify: _____

7. How would you describe your current relationship status? (choose only one)
   - (1) Single, never married
   - (2) Domestic partnership
   - (3) Married

(4) Separated
(5) Divorced
(6) Remarried
(7) Widowed

8. Does your child have other regular caregivers in addition to yourself? **Y N**
   a. If so how many? _____
   b. Please list the relationship of the other caregivers to your child (e.g. parent, grandparent, babysitter, etc) _____
   _____

9. What is the highest level of education you have completed? (Circle one)
   (1) Grade: 1 2 3 4 5 6 7 8 9 10 11 12
   (2) GED
   (3) Some college
   (4) Trade School (Cosmetology, Nursing, Technical/Vocational)
   (5) AA degree
   (6) BA/BS
   (7). Some grad school
   (8) Graduate degree
      a. MA? _____
      b. Ph.D.? _____
      c. Law? _____
      d. MD _____

10. What is your yearly family income?
   (1) under $10,000
   (2) $10,001 to $20,000
   (3) $20,001 to $30,000
   (4) $30,001 to $40,000
   (5) $40,001 to $50,000
   (6) $50,001 to $60,000
   (7) $60,001 to $100,000
   (8) above $100,001

11. What is your employment status?
   (1) Employed out of the house
      a. Full Time
      b. Part Time
   (2) Work from home
      a. Full Time
      b. Part Time
   (3) a. Not currently employed

ABOUT YOUR FAMILY

12. In the past have your or your child seen a doctor or counselor about your child's behavior?

___ Mental Health/Counseling _____
___ Psychological testing _____
___ Medication for psychiatric reasons _____
a. Psychiatrist
b. Pediatrician
___ Inpatient or Partial Hospitalization _____
___ Other _____

13. Has your child received any special services for developmental or educational reasons?
___ Speech and Language _____
___ Occupational or physical therapy_____
___ Special Education classes or an IEP _____
___ Therapeutic day school _____
___ Other _____

14. Do you have any other children in your household? If so, what are their ages?_____

Appendix C

PCIT-AG Utility and Satisfaction Rating Scale

PCIT-AG Utility and Satisfaction Rating Scale

Please rate the following questions on a scale of 1 to 5, where 5 is *very much* and 1 is *not at all*

1. How helpful you found the PCIT-AG materials

1	**2**	**3**	**4**	**5**
Not at all		*Somewhat*		*Very Much*

2. How much you feel the materials changed the way you interact with your child

1	**2**	**3**	**4**	**5**
Not at all		*Somewhat*		*Very Much*

3. How satisfied are you with the PCIT-AG materials

1	**2**	**3**	**4**	**5**
Not at all		*Somewhat*		*Very Much*

4. How likely would you be to recommend the PCIT-AG materials to a friend or family member who's child is experiencing behavior problems

1	**2**	**3**	**4**	**5**
Not at all		*Somewhat*		*Very Much*

5. Approximately how much time (in total) did you spend reading and reviewing the PCIT materials over the past six weeks?

_____ Less than 1 hour
_____ 1 to 2 hours
_____ 2 to 4 hours
_____ 4 to 6 hours
_____ 6 to 10 hours
_____ Over 10 hours

6. On average, how many days each week (over the 6 weeks you practiced with the materials) did you complete the CDI Homework (5 min of Special Time)?

_____0 – 1 days a week
_____2 – 3 days a week
_____4 – 5 days a week
_____6 – 7 days a week

7. Please place an X next to the portions of the PCIT-AG materials that you read over the course of the last 5 weeks:

_____ Welcome/Introduction

Child Directed Interactions
_____ Introduction to CDI
_____ Do and Don't skills
_____ CDI Skills Practice Description (Special Time)
_____ CDI Toys handout
_____ Labeled Praise Worksheet

Parent Directed Interactions
_____ Introduction to PDI
_____ Rules of Effective Commands
_____ Time-Out Procedure
_____ PDI Skills Practice Description
_____ House Rules
_____ Public Outings

Additional Resources
_____ Kids and Stress
_____ Getting Support
_____ Additional Discipline Tools

8. Which part of the materials did you find to be the most helpful to you? Place an X next to as many sections as you found helpful.

_____ Welcome/Introduction

Child Directed Interactions
_____ Introduction to CDI
_____ Do's and Don't skills
_____ CDI Skills Practice Description (Special Time)
_____ CDI Toys handout
_____ Labeled Praise Worksheet

Parent Directed Interactions
_____ Introduction to PDI
_____ Rules of Effective Commands
_____ Time-Out Procedure
_____ PDI Skills Practice Description
_____ House Rules
_____ Public Outings

Additional Resources
_____ Kids and Stress
_____ Getting Support

_____ Additional Discipline Tools

8a. What made these particular sections helpful?

9. Which part of the materials did you find to be confusing or unhelpful? Place an X next to as many sections as you found confusing or not helpful.

_____ Welcome/Introduction

Child Directed Interactions
_____ Introduction to CDI
_____ Do and Don't skills
_____ CDI Skills Practice Description (Special Time)
_____ CDI Toys handout
_____ Labeled Praise Worksheet

Parent Directed Interactions
_____ Introduction to PDI
_____ Rules of Effective Commands
_____ Time-Out Procedure
_____ PDI Skills Practice Description
_____ House Rules
_____ Public Outings

Additional Resources
_____ Kids and Stress
_____ Getting Support
_____ Additional Discipline Tools

9a. What made these particular sections confusing or unhelpful?

10. We are interested in learning about ways that we could make the PCIT-AG materials more helpful to families. Please share your thoughts about ways the PCIT-AG materials could have been more useful, such as:

Changes you would like to see in how the materials were written/organized:

Supplemental information that would have been helpful such as real-life examples, online videos of people using the skills, check in calls with a clinician to discuss the materials, etc:

Altered content to fit better with your cultures and values:

Anything else:

Appendix D

Homework Sheets

CDI Homework Sheet

Mother ___ Father ___ Child's First Name _____

Date	Did you spend 5 minutes in Special Time today? Yes	No	Activity	Problems or questions in Special Time
Monday _____				
Tuesday _____				
Wednesday _____				
Thursday _____				
Friday _____				
Saturday _____				
Sunday _____				

PDI Homework Sheet

❑ Mother ❑ Father Child's Name _____

Insert Date	PRACTICE Did you practice for **5 minutes in a play situation** after CDI?		TIME OUT CHAIR Make tally mark each time child is sent to time-out for disobeying a **command during play situation**	TIME OUT ROOM Place one mark each time child got **off the chair** without permission	Comments
	YES	NO			
MONDAY _____					
TUESDAY _____					
WEDNESDAY _____					
THURDAY _____					
FRIDAY _____					
SATURDAY _____					
SUNDAY _____					

Appendix E

Contact Information Sheets

Contact Information Sheet

Name: _____

Address: _____
Street number and name, apartment #

_____
City, State, and Zip

Phone number: _____

Email address: _____

Would you prefer to complete the assessment measures:

Online On a computer in person Over the phone

This person is interested in being contacted about participation in a follow up study:

Yes No