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The Effect of Parent-Child Interaction Therapy on Strengthening the Attachment Relationship with Foster Parents and Children in Foster Care

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The Effect of Parent-Child Interaction Therapy
on Strengthening the Attachment Relationship
with Foster Parents and Children in Foster Care

A Dissertation

Presented in

Partial Fulfillment of the

Requirements for the Degree of

Doctor of Philosophy

By

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August, 2014

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Biography

The author was born in Washington, D.C. on October 5, 1983. She graduated from Thomas Jefferson High School for Science and Technology in Alexandria, Virginia in 2001. In 2005, she graduated from the University of Virginia with a Bachelor of Arts degree in Psychology. She received her Master of Arts Degree in Clinical Psychology from the University of Colorado Denver in 2008. In August of 2008, she enrolled in the Doctorate of Philosophy program in Clinical Psychology at DePaul University in Chicago, Illinois. Christina was awarded a Doris Duke Foundation Fellowship for the Promotion of Child Well-Being in 2011. Christina went on to complete her pre-doctoral internship at the Louisiana State University Health Sciences Center.

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Abstract

Children in foster care are more likely to face difficulties in forming a secure attachment relationship and to have problem behaviors than children not in foster care (Dozier & Rutter, 2008). Parent-Child Interaction Therapy (PCIT) is an evidence-based treatment that focuses on strengthening the attachment relationship between the child and the caregiver, as well as reducing the number and intensity of behavior problems. Although PCIT is based on attachment theory, very few studies have examined the effect of PCIT on child-parent attachment or examined the effect of PCIT on attachment in foster care families. This study extends prior work and uses a randomized design to examine the effect of the relationship-building phase (CDI) compared to the relationship-building plus discipline-strengthening phases (CDI plus PDI) of PCIT on child-parent attachment, child behavior problems, parent mood, parental stress, and treatment satisfaction with non-clinically referred foster families.

Twenty seven foster families were randomly assigned to either the CDI phase only PCIT treatment condition, the CDI plus PDI phase PCIT treatment condition, or the waitlist bibliotherapy (PCIT: Anticipatory Guidance) condition. All assessments and services were provided in the home. Results from the 21 families that completed the study indicated that children who were in the CDI plus PDI treatment group had a more secure relationship with their foster caregiver at post-treatment than children in the CDI only treatment group. Foster children in the PCIT treatment groups were reported to have fewer behavior problems at post-treatment than children in the waitlist bibliotherapy group.

Parents in the CDI only treatment group had somewhat lower levels of parenting stress at post-treatment than parents in the CDI plus PDI treatment group. There were no differences in parental depression at post-treatment between the groups. This study provides further evidence to demonstrate that PCIT is effective with foster care populations and provides preliminary evidence about the differing effects of the two PCIT phases on foster parent and foster child outcomes.

Chapter I

Introduction

In 2012, approximately 400,000 children were in foster care in the United States; nearly 38 percent were 5 years of age or younger (United States Department of Health and Human Services, 2013). Most children who enter foster care have experienced neglect and/or abuse from previous caregivers (Dozier & Rutter, 2008). Of the substantiated maltreatment reports in 2011, 78.5% of children were neglected, 17.6% were physically abused, and 9.1% were sexually abused (U.S. Department of Health and Human Services, 2011). In addition, children who enter foster care experience separation from their previous caregivers. Children form attachments to their caregivers even in situations of neglect or abuse; however, these attachments often are insecure (Dozier & Rutter, 2008). Foster parents can face difficulties when forming attachment relationships with children in foster care, and they may need support and training to help develop secure relationships. Attachment relationships impact child development and the formation of later relationships, and increasing the security of attachment relationships in the young child's life can help protect children from later negative outcomes.

Child-Parent Attachment

Attachment is the emotional bond that children develop with their primary caregivers early in life. Characteristics of the attachment relationship with each caregiver include that the bond is persistent, it involves a specific person, the relationship is emotionally significant, proximity to this person is desired, there is

distress at any involuntary separation from the person, and that security and comfort are sought out in the relationship with the person (Ainsworth, 1989). According to attachment theory, a sensitive and responsive caregiver provides children with a secure base for exploring and helps them to develop positive internal working models of relationships (Ainsworth, 1978; Bowlby, 1969/1982). When caregivers act as a secure base, children are able to explore their environment with the confidence that their caregiver will be available and responsive and available if the child needs them. The caregiver's predictable responsiveness promotes secure attachment. Insecure attachment can result when caregivers are unavailable and unresponsive to children's needs. Children with insecure attachment feel anxious about their caregiver's availability based on their experience of the caregiver not being consistently available to comfort the child when feeling threatened by the environment.

Internal working models of relationships are thought to be based on repeated attachment-related experiences (Bowlby, 1969). These experiences are then organized as a set of scripts and broader representations that allow children to make future plans and decisions. Children whose caregivers are readily available may develop working models of the self where they are loved and accepted, whereas children who are afraid that their caregiver will not be available may develop working models of the self where they are unloved and not acceptable (Bowlby, 1988). These working models of the self are characteristic of secure and insecure attachment, respectively.

Children form an attachment to a caregiver as long as there is a stable caregiver to interact with (Bowlby, 1969/1982). From an evolutionary perspective, attachment behaviors (e.g. crying, approaching, seeking contact) increase the likelihood of child-caregiver proximity, which in turn increase the likelihood of protection and survival. Most young children are thought to form more than one attachment relationship with familiar people in their life (Bowlby, 1969/1982), but research suggests that it is typically limited to three or four people (Cassidy, 2008). Children do not treat these relationships equally, and they are thought to have an “attachment hierarchy.” Factors thought to influence the development of these attachment relationships include how much time is spent in each person’s care, the quality of care provided, the emotional investment in the child, social cues, and the repeated presence of the figure in the child’s life (Cassidy, 2008).

Attachment has been shown to affect children’s cognitive, language, and social-emotional development (Cohn, 1990; Van IJzendoorn, Dijkstra, & Bus, 1995). Secure attachment is thought to be a protective factor against negative outcomes and to increase the likelihood of resilience in the face of stress (Weinfield, Sroufe, Egeland, & Carlson, 2008). Many research studies have found insecure attachment to be associated with increased risk of psychopathology, including higher levels of externalizing behavior problems (Fearon, Bakermans-Kranenburg, Van IJzendoorn, Lapsley, & Roisman, 2010).

Several studies of attachment relationships between young children and foster parents have found lower percentages of secure attachment compared to

rates typically found with biological parents (Dozier, Stovall, Albus, & Bates, 2001; Ponciano, 2010), but one study found similar percentages of secure attachment between relative and non-relative foster caregivers, biological parents, and adoptive parents (Cole, 2006). A study of factors associated with attachment relationships found that foster parent sensitivity was associated with foster parent-child attachment security when symptoms of attachment disorder were taken into account, and that attachment security and symptoms of attachment disorder were found to be related to parent and teacher reports of internalizing and externalizing behavior problems (Oosterman & Schuengel, 2008). The authors concluded that the principles of attachment theory can also be applied to foster parent-child relationships, except for children who have symptoms of attachment disorder.

Foster Parents and Children in Foster Care

The majority of children who experience abuse and/or neglect and placed in out-of-home care are either placed in kinship or non-kin foster care. Kinship or relative foster care occurs when a child is removed from his or her home by a child welfare agency and placed with a relative who is made responsible for the child's care (Ehrle & Geen, 2002). Non-kin foster care is used to refer to traditional foster care arrangements in which the foster parent and foster child are not related. Forty seven percent of children in foster care in 2012 were residing in a non-kin foster family home, and twenty eight percent of foster care children were in kinship foster care (USDHHS, 2013). The remainder either were in a pre-adoptive home, a group home, an institution, supervised independent living, had run away, or were in a trial home visit.

Foster parents are faced with a particularly challenging situation when forming an attachment relationship with a foster child. Children can display resistant or avoidant behaviors, which, in turn, can elicit unresponsive or rejecting behavior from the caregiver (Dozier & Rutter, 2008). Young children in foster care who had previously experienced neglect or had disordered attachment were found to have increased physiological reactivity when participating in the Strange Situation Procedure, an attachment task, with their foster caregiver (Oosterman, de Schipper, Fisher, Dozier, & Schuengel, 2010). Oosterman and colleagues posited that this may result in these foster children having more difficulty regulating their emotions in the context of environmental stress. In addition, young children who enter the foster care system have been found to have much higher rates of behavior problems than the normal population (Clausen et al., 1998; Leslie et al., 2005). The National Survey of Child and Adolescent Well-being (NSCAW), a survey of the mental health needs of children involved in child welfare, found that 55.7% of two-year-olds and 38.5% of three- to five-year-olds had clinically significant emotional or behavioral problems (Leslie et al., 2005). The children's adjustment is also complicated by the high prevalence of developmental delays in foster children, with some studies finding rates as high as 60% (Leslie et al., 2005). These issues can prove challenging to foster care parents, who often do not receive sufficient education and training around attachment difficulties and child behavior problems before taking a foster child into their home.

In addition to increased risk of emotional and behavioral difficulties, early maltreatment experiences can affect children's brain development. Studies have found that children in foster care experience differences in executive functioning and hypothalamic-pituitary-adrenal (HPA) axis functioning when compared to children not in foster care (Leve et al., 2012). Pears and Fisher (2005) found that children in foster care had visiospatial functioning, language, and general cognitive functioning delays and deficits compared to children without a maltreatment history from comparable socioeconomic backgrounds. These impacts on brain development may affect foster children's functioning both in the school and home environment (Leve et al., 2012).

Foster children with difficulties in adjustment are also at increased risk for multiple foster home placements. Between 25 and 50 percent of foster children experience foster care placement disruption within the first year and a half of foster care placement (Palmer, 1996; Smith, Stormshak, Chamberlain, & Whaley, 2001). Non-kin foster care placement, elevated levels of behavior problems, and difficulties forming attachment relationships with foster caregivers have been found to increase the chances of placement disruption (Chamberlain et al., 2006; DeGue & Widom, 2009; Walsh & Walsh, 1990). Even for children who score within the normal range of behavior problems initially, number of placements a year and a half later has been found to be related to increased levels of externalizing and internalizing behavior problems (Newton, Litrownik, & Landsverk, 2000). When foster children change placements, they have discontinuous caregiving experiences, which may contribute to further difficulty

when forming new attachment relationships with a new caregiver. DeGue and Widom (2009) found that, after controlling for early behavioral problems, children with a history of abuse and/or neglect were at significantly higher risk for violent criminal behavior if children had three or more foster care placements or if they had been in their first placement for fewer than ten years. Finding effective treatments to strengthen the quality of the attachment relationship between foster parents and children may help reduce placement disruption and later violent criminal behavior.

Foster parent factors, such as depression symptoms and parental stress, may be impacted by any behavioral or emotional problems their foster child may have. In an intervention study, foster parents of preschool-aged children randomly assigned to the control condition reported higher rates of stress over time and increased sensitivity of caregiver stress to child problem behaviors over the year-long study (Fisher & Stoolmiller, 2008). On the other hand, foster parents in the intervention condition reported a significant reduction in parental stress that maintained at a one-year follow-up. Cole and Eamon (2007) found a low rate of depressive symptoms among foster parents in a study of foster parents residing in Illinois; however, higher levels of depression were related to experiencing less than very good health, a history of childhood maltreatment, and not having enough time to carry out responsibilities. These studies point toward the importance of providing supportive services for foster parents and measuring foster parent outcomes in treatment studies.

Rushton, Mayes, Dance, and Quinton (2003) recommend that interventions with foster care families focus on both reducing problem behavior and enhancing the foster parent-child relationship, and that interventions should not exclusively focus on one or the other. Leslie and colleagues (2005) recommend using foster parents as therapeutic intervention agents and argue that if foster parents learned how to manage their child's problems, there would be increased positive outcomes. They also hypothesize that the skills foster parents learn as therapeutic intervention agents would be applied to other children in the foster parents' care and result in increased positive outcomes for those children as well (Leslie et al., 2005).

Parent-Child Interaction Therapy

Parent-Child Interaction Therapy (PCIT), based on attachment and social learning theory, has been shown to be an effective evidence-based treatment for parents and children aged 2-7 who have behavior problems (Zisser, & Eyberg, 2010). Attachment theory posits that parents who are sensitive and respond to their child's needs with warmth and nurturance often have children who develop secure attachment relationships, whereas parental unresponsiveness and unavailability are associated with insecure attachment and maladaptive child behavior outcomes. Therefore, the first phase of PCIT aims to teach parents skills to restructure the parent-child play interaction to promote secure attachment.

According to social learning theory, the interactions of parents and their children with disruptive behaviors are shaped by contingencies. Patterson's (1982) coercion theory further elucidates this pattern, stating that children's

disruptive behaviors are unintentionally established or maintained by dysfunctional parent-child interactions (e.g. arguing and criticizing). PCIT aims to interrupt the coercive cycle and teaches parents to be more consistent and firm with limit setting (Zisser & Eyberg, 2010). PCIT also draws on Baumrind's work on parenting styles (Baumrind, 1967, 1991) and aims to increase parental nurturance and limit setting to promote an authoritative parenting style. Some key features of PCIT include working with the parent and child together and providing direct coaching of parent-child interactions (McNeil & Hembree-Kigin, 2010).

PCIT is composed of two treatment phases in which caregivers are taught skills to use in interacting with their child and managing their child's problem behaviors (Eyberg & Funderburk, 2011). The Child-Directed Interaction (CDI) phase of treatment focuses on improving parent communication skills and increasing parental responsiveness to enhance the parent-child relationship. In this phase, parents are taught to follow their child's lead in play and are coached to give positive attention to their child's appropriate behaviors. If the child misbehaves, parents are coached by the therapist to use differential social attention and ignore the misbehavior until it ends. The Parent-Directed Interaction (PDI) phase of treatment focuses on improving parents' discipline skills and strategies to reduce negative child behaviors. In PDI, parents are taught to use effective commands and to use a specific time-out procedure for highly disruptive or non-compliant child behavior. The CDI phase occurs first in PCIT due to the belief that a secure, nurturing relationship is an important foundation for establishing effective discipline and consistency with a child. Parents complete

each phase of treatment when they meet mastery criteria, demonstrating they have learned the skills taught in each phase.

PCIT has been shown to be an efficacious treatment for disruptive behavior disorders (e.g. Schuhmann, Foote, Eyberg, Boggs, & Algina, 1998) and has been applied to other populations as well (e.g., children with mental retardation and oppositional behavior, Bagner & Eyberg, 2007). In addition, PCIT has been shown to affect parent outcomes such as parenting stress. Schuhmann et al. (1998) found that at post-treatment, PCIT resulted in significantly lower levels of child behavior problems as measured by the Eyberg Child Behavior Inventory (ECBI) and parenting stress as measured by the Parenting Stress Index (PSI) when compared to the waitlist control group. The few studies that have examined PCIT with foster care families indicate that PCIT has been successful in reducing child behavior problems (McNeil, Herschell, Gurwitch, & Clemens-Mowrer, 2005; Timmer, Urquiza, & Zebell, 2006). For instance, Timmer and colleagues (2006) found that there was no difference in the effectiveness of PCIT at decreasing child behavior problems when comparing non-kin foster care parents and their foster children with biological parents and their children. Timmer and colleagues (2006) also found that general psychological symptoms and parenting stress decreased from pre- to post-treatment for foster parents. McNeil and colleagues (2005) found that a two-day workshop for foster parents and foster children that taught and coached parents in PCIT skills resulted in a significant decrease in child behavior problems at the one-month follow-up.

Few studies have examined the impact of the CDI phase of PCIT treatment only or compared it to the PDI phase of treatment on child and parent outcomes. Eisenstadt, Eyberg, McNeil, Newcomb, and Funderburk (1993) conducted a study where families were randomized to the CDI phase or PDI phase of treatment occurring first. Although the authors did not measure attachment, they did not find a difference between the two groups at mid-treatment on non-verbal indices of affection, such as positive physical touch, negative physical touch, or proximity. Another study examined parent and child outcomes at the end of the CDI phase of treatment and found significant reductions in child behavior problem intensity, parental stress, and dysfunctional parenting practices (Harwood & Eyberg, 2006). A pilot study examining the effect of the CDI phase of PCIT delivered in the home with seven at-risk infants with externalizing behavior problems and their mothers found a significant improvement in mother-child interactions at post-treatment and at 4- to 6-month follow-up (Bagner, Rodríguez, Blake, & Rosa-Olivares, 2013). Many of the mothers also reported clinically significant improvements in child behavior problems at post-treatment and at follow-up. Taken together, these studies provide evidence for the effect of the CDI phase on improving parent and child outcomes, but the effect of the different phases of PCIT on treatment outcomes is less clear.

PCIT is typically delivered in clinic settings but can also be delivered in community settings such as in the home. This is often done to increase the accessibility of the treatment and improve follow-through in PCIT services. In addition to Bagner and colleagues' (2013) pilot trial of the CDI phase with

infants, a study examining the efficacy of delivering PCIT in the home using a single subject A/B design with staggered baselines found that child problem behavior scores decreased to below the clinical cutoff for families that completed PCIT in-home services (Ware, McNeil, Masse, & Stevens, 2008). Further, they found increased caregiver positive behavior and increased child compliance to commands. Families reported a high degree of satisfaction with treatment, but two of the five families in the study dropped out before completing treatment. Another study evaluated in-home delivery of PCIT with a larger sample ($n = 83$) and found a significant improvement in child behavior problems and parent-child interactions from pre- to post-treatment (Galanter et al., 2012). The authors reported a 34.9% attrition rate with their sample. Lanier and colleagues (2011) evaluated PCIT implemented in a community setting with a quasi-experimental design that allowed families to choose their treatment setting, either in the home or a standard office setting. Their study found no difference in child behavior problem scores at the end of treatment between the two groups, but they found that parental stress and parent mental health functioning improved more quickly for parents in the in-home setting. Lanier et al. (2011) reported a higher overall dropout rate (69%), but they did not find a difference in dropout rates between families receiving in-home services (66%) and those receiving office services (71.9%). They noted that, although the dropout rate was fairly high, the cancellation and no-show rate is often reduced for in-home therapy.

Researchers have also started to investigate the difference between standard PCIT treatment and time-limited PCIT treatment. PCIT treatment

typically concludes when parents achieve mastery criteria in both phases of treatment and child behavior problem levels are within half a standard deviation of the norm. Several researchers have examined the efficacy of time-limited PCIT treatment, where PCIT ends after a certain number of sessions instead of after mastery criteria is met (e.g. Chaffin et al., 2009; Thomas & Zimmer Gembeck, 2012). Thomas and Zimmer-Gembeck (2012) found that a time-limited version of PCIT with two teach sessions and 12 coaching sessions was successful at reducing child behavior problems levels and parenting stress when compared to a supported waitlist control group, and that it had similar treatment outcomes when compared to the authors' previous trial of PCIT with high-risk families. They concluded that additional sessions and extended time in PCIT may not be needed for families to experience improvements in child behavior problem levels and the parent-child relationship. Thomas and Zimmer-Gembeck (2012) also reported that their attrition rate was lower (32%) than in their previous trial of PCIT, and they discussed that having a fixed number of sessions may reduce therapy fatigue and increase commitment to treatment.

Evidence-Based Treatments in Child Welfare

Although evidence-based treatments have demonstrated significantly improved foster parent and foster child outcomes, there remains some reticence to incorporate these practices into child welfare systems (Chaffin & Friedrich, 2004; Horwitz, Chamberlain, Landsverk, & Mullican, 2010). Chaffin and Friedrich (2004) point out that evidence-based practices (EBPs) are a good fit with the child welfare system due to the system providing programmatic services to a well-

defined population or problem. However, they also discuss significant barriers to the utilization of EBPs in child welfare settings, including organizations not knowing about available EBP models, the cost associated with implementing EBPs, and the gap between research and practice communities. In a pilot study by Horwitz and colleagues (2010), child welfare agencies reported that staff resistance due to fear of the unknown or job loss was a major barrier to adopting new practices. Child welfare agencies described leadership and staff support as important features for practice change, along with the consistency of the new practice with existing agency practices and philosophy and staff perceptions about whether the new practice is beneficial to clients. Less than half of the child welfare agencies viewed a practice being evidence based as an important factor for adoption.

The finding that standard evidenced-based treatments may not be perceived as appropriate for foster children and foster parents due to their unique needs may be one reason for the lack of research specifically evaluating interventions with foster care populations (Leve et al., 2012). A review in 2012 by Leve and colleagues found only eight interventions that had been studied with children in foster care using a randomized trial study design at the individual level and found to be effective in improving outcomes. The authors called for additional research on interventions to help improve foster child outcomes and as well as research on how to more effectively implement evidence-based interventions in the child welfare system (Leve et al., 2012).

Assessment of Attachment and PCIT

Although PCIT is based on attachment theory, very few studies have examined the effect of PCIT on child-parent attachment. In a dissertation study, Perez (2008) examined the effect of PCIT on mother-child attachment and problem behaviors in biological families as part of an efficacy trial. Attachment was assessed using Attachment Q-Sort with the mother as the rater, where the mother rated the quality of attachment between mother and child. Perez examined patterns of change in attachment over the course of treatment and found that families who had a greater improvement in attachment security throughout treatment also had a faster decline of parent-reported behavior problems from pre- to post-treatment. Perez also found that change in attachment did not predict differences in child behavior problems at the end of treatment.

Further, only one study has looked at the effect of PCIT on the attachment relationship between foster parents and their foster children. A dissertation study by Stevens (2011) examined the effect of the CDI phase of PCIT with twice weekly sessions compared to a waitlist control group for relative caregivers of children in foster care. Attachment was assessed using the Parent Attachment Diary (PAD; Stovall & Dozier, 2000), a parent report measure with items related to various attachment behaviors. No differences were found between the two groups on attachment security at post-treatment, but relative caregivers who participated in CDI treatment reported having more positive relationships with their foster children. The findings on attachment may not have supported her

hypothesis due to her small sample size ($n = 12$) and high pre-assessment attachment scores.

Attachment can be assessed using a variety of methods, but methods using independent observers are considered the most valid (van Ijzendoorn et al., 2004). Originally attachment was primarily assessed using Ainsworth's Strange Situation Procedure (SSP; Ainsworth, 1978), which measures attachment based on the reunion of the caregiver and child after separation in a laboratory. The Attachment Q-Set (AQS, Waters, 1995) was developed out of the need to have a more economical measure of attachment and the desire to stimulate more research on attachment security beyond infancy. The AQS is composed of 90 items and assesses specific behaviors associated with attachment. When utilized by an observer, attachment is assessed through observing caregiver-child interactions in the natural home environment. The AQS can also be utilized by the caregiver, who rates child behaviors associated with attachment, but it is not viewed as an optimal way to assess attachment. In a meta-analysis examining the reliability and validity of the Attachment Q-Sort, van Ijzendoorn and colleagues (2004) concluded that the observer AQS was a valid measure of attachment but that the caregiver-rated AQS was not. The meta-analysis found that the association between the caregiver-rated AQS and the SSP was weak, whereas the association between the observer AQS and SSP was much stronger. The effect of PCIT on attachment security has only been studied using maternal-rated AQS and has not been studied using the observer AQS.

A meta-analysis on early childhood attachment interventions by Bakermans-Kranenburg, Van IJzendoorn, and Juffer (2003) found that the most effective attachment-enhancing interventions had a behavioral focus. PCIT is an intervention that has a behavioral focus, teaching parents skills to use in interacting with their children, and coaching parents in applying these skills. Examining the effect of PCIT on the newly forming attachment relationship between the foster parent and the foster child is important in order to determine if PCIT can help strengthen the quality of the attachment relationship. Although there are other attachment-enhancing interventions for young children, such as Attachment and Bio-Behavioral Catch up (Dozier et al., 2009) and Infant-Parent Psychotherapy (Lieberman, Weston, & Pawl, 1991), PCIT is the only Infant and Toddler Mental Health program classified as well-supported by research evidence for treating the child welfare population (California Evidence-Based Clearinghouse, 2010). PCIT also can be implemented with children up through age 7, whereas many of the other attachment-enhancing interventions can only be implemented with children through age 5.

In addition to the dearth of research on the effects of PCIT on the parent-child attachment relationship, another unexplored question is the effect of the Child-Directed Interaction (CDI) phase and the Parent-Directed Interaction (PDI) phase of PCIT on the attachment relationship. Theoretically, the CDI phase has more focus on strengthening attachment than the PDI phase, due to CDI's emphasis on teaching parents positive, responsive attention. However, prior research indicates that child behavior problems increase the risk of foster care

disruption (Chamberlain et al., 2006). Thus, it is possible that training parents in behavior management skills, which is the focus of PDI, would be important in building a secure attachment relationship. Learning if the CDI phase of PCIT is more effective in enhancing the attachment relationship, if the combination of CDI and PDI is more effective, or if there is no difference would be beneficial for foster families when strengthening the quality of the parent-child relationship is a primary treatment goal.

Rationale

This project will contribute a better understanding of how to enhance the social development of children who are at a higher risk for negative mental health outcomes. Children who are taken from their homes experience a disruption in their attachment relationship with their primary caregiver, which can make it difficult to form a secure attachment relationship with their foster caregiver (Dozier & Rutter, 2008). Although much research has examined attachment in biological families, relatively little is known about attachment relationships in foster children (Nilsen, 2003). Understanding more about how to increase the security of the foster parent and foster child attachment relationship in the context of a longer placement will help contribute to knowledge about attachment and determine future research directions with interventions that aim to improve attachment relationships.

In addition, very little research has been conducted on PCIT with foster care populations, and few studies have examined the effects of PCIT on the parent-child attachment relationship. This study examines whether CDI only

PCIT treatment is more effective or is equally effective as CDI and PDI PCIT treatment at enhancing the parent-child attachment relationship. Since families in the CDI only PCIT treatment condition will spend more time in the phase of treatment that focuses on strengthening attachment, children who receive the CDI only PCIT treatment may have a more secure relationship with their foster caregiver than children who receive the CDI and PDI PCIT treatment. This study also examines how PCIT treatment impacts foster child and foster parent outcomes, including child behavior problems, parental stress, and parent depression symptoms. Overall, this project aims to directly examine the effects of PCIT on attachment relationships, and to provide further evidence to demonstrate that PCIT is effective with foster care populations.

Statement of Hypotheses and Research Question

Hypothesis I. Children who receive PCIT treatment will have a more secure attachment relationship with their foster caregiver than children who do not receive PCIT treatment.

Hypothesis II. Children who receive the CDI only PCIT treatment will have a more secure attachment relationship with their foster caregiver than children who receive the CDI plus PDI PCIT treatment. Families in the CDI-only PCIT treatment condition will spend more time in the phase of treatment that focuses on strengthening quality of attachment than families in the CDI plus PDI PCIT treatment condition.

Hypothesis III. Parenting stress, parental depression, and child behavior problem scores will show a larger decrease in both PCIT treatment groups as compared to the waitlist bibliotherapy group.

Research Question I. Are there differences between families in the CDI only and CDI plus PDI treatment groups on parenting stress, parental depression, or child behavior problems at post-treatment?

Chapter II

Method

Participants

This study took place in a large, urban Midwestern city. Approval of this project was obtained from the Institutional Review Board for the investigator's university, from one of the foster care agencies, and from the state's Department of Children and Family Services. Twenty seven foster care families with a foster child between the ages of 2 and 5 participated in the study. Although PCIT can treat children up to age 7, children over 5 were not eligible to participate in this study due to the focus on early childhood and the use of the AQS, which is designed for children up to 5 years of age. Participants either self-referred, were referred from local foster care agencies with whom the investigator collaborated, or were referred through the Department of Children and Family Services (DCFS). To participate in the study, the foster parent needed to express a desire to improve the foster parent-child relationship, reduce foster child behavior problems, or both. Additionally, the foster child must have been placed with the foster parent for at least two months. Research has shown that most young children placed in foster care have stable patterns of attachment behavior emerge within two months of placement (Stovall & Dozier, 2000). Further, the foster family needed to anticipate the foster child being placed with them for at least another six months. Families also had to live within a 45 minute driving distance of the investigator's university.

Foster children were not included in the study if they had significant developmental delays that would impair participation in treatment. This was assessed through verbal report of the foster parent during the screening phone call, and then further assessed through the parent's report of child behavior on the Child Behavior Checklist measure. If a different level of care was indicated (e.g. severe behavior problems needing intensive treatment), the foster child and foster parent were excluded from the study and referred to another agency. Children were not required to have clinical levels of behavior problems to participate in the study, although the majority did have clinically significant behavior problems.

Foster parents had a mean age of 44.11 ($SD = 13.12$; range 23-81) and 92.6% were female. Ethnicity of the foster parent was 66.7% African American, 14.8% Latino, and 18.5% Caucasian, with 84.6% being female. Foster children were 74.1% male with a mean age of 3.56 years ($SD = 0.99$; range: 2.08–5.67) at the beginning of the study. Child ethnicity was 66.7% African American, 11.1% Latino, 3.7% Caucasian, 3.7% Asian, and 14.8% Multiracial. Foster parents reported that their foster child had been placed with them for an average of 1.93 years ($SD = 1.37$; range: 0.17–5.00). Foster parents had an average of 14.69 years of schooling ($SD = 3.26$), but it ranged from 4 years to 22 years of schooling. Average household income for foster parents was 4.15, where 4 = \$30,001 to \$40,000 and 5 = \$40,001 to \$50,000 ($SD = 2.26$; range: 1.00–8.00). Marital status of foster parents was 26.9% single, 3.8% cohabitating, 34.6% married, 3.8% separated, 15.4% divorced, and 15.4% widowed. Foster parents reported they had been foster parents for an average of 4.60 years ($SD = 4.48$; range: 0.33–15.00),

with two foster parents reporting simply “years.” Slightly under one third (28.6%) of foster parents reported they were kin caregivers and related to their foster child. There was an average of 1.04 other foster children in each home ($SD = 1.32$; range: 0–5). Two of the homes reporting four other children in foster care had adopted the children who had previously been in foster care.

Recruitment

The principal investigator and a trained graduate research assistant utilized a variety of strategies to recruit participants and receive referrals from foster care agencies and DCFS. The researchers called and emailed foster care agencies and DCFS offices serving young children in foster care throughout the metropolitan area. The researchers also attended individual and group meetings with caseworkers and supervisors at foster care agencies and DCFS to distribute flyers and provide information about the study. Additionally, they went to foster parent trainings and foster parent support group meetings and provided brief trainings on child behavior management techniques. The principal investigator met with members of the state Foster and Adoptive Parent Association board of directors and provided them with information about the study and attended their annual meeting. Information about the study and fliers were provided to a community mental health clinic that provided services to young children. The principal investigator also provided trainings on child behavior management strategies and provided information about the study to caseworkers and supervisors at two of the foster care agencies.

Setting

All home visits occurred at the participants' home, and all PCIT sessions took place at the participants home as well. DCFS and eight foster care agencies in the Chicago area agreed to collaborate on this project.

Each session was audio and video recorded for supervision purposes and measurement of treatment integrity. Sessions typically took place in the family's living room or kitchen. Call pods were used for the in-room coaching to allow the therapist to sit or stand back from the foster parent and child. A video camera was positioned in a corner of the room and angled to best capture video. Toys that encourage creative play, such as Mr. and Mrs. Potato Head and building blocks, were provided by the researcher and used during each PCIT session.

Materials

Background Questionnaire. The Background Questionnaire is a 10-item inventory to gather demographic information (e.g., gender, age, race/ethnicity, age of child, number of years of schooling completed, parenting status, marital status, and household income). Foster parents were also asked to indicate how long they had been a foster parent and how many other foster children were in the home.

Eyberg Child Behavior Inventory. The Eyberg Child Behavior Inventory (ECBI; Eyberg & Pincus, 1999) is a 36-item parent rating measure of child disruptive behavior problems. The ECBI Intensity Scale assesses the frequency of disruptive behaviors and is measured on a 7-point scale. The Intensity Scale has a clinical cutoff of 132. Research indicates that this measure

has good internal reliability ($\alpha = .94$ for Intensity Scale) and demonstrates content and discriminant validity (Eyberg & Pincus, 1999; Weis, Lovejoy, & Lundahl, 2005). Internal consistency for ECBI intensity scale scores in the current sample was .91.

Child Behavior Checklist. The Child Behavior Checklist 1 ½ - 5 (CBCL; Achenbach & Rescorla, 2000) is a caregiver-report form that measures behavioral and emotional symptoms in children. The measure contains 99 items that measure both externalizing (e.g. hyperactive, noncompliant) and internalizing (e.g. anxiety, depressive) behaviors. Inter-item consistency for these three subscales is strong ($\alpha = .89, .92, .95$; Achenbach & Rescorla, 2000).

Beck Depression Inventory II. The Beck Depression Inventory II (BDI-II; Beck, Steer, & Brown, 1996) is a self-report measure consisting of 21 questions about the intensity of depressive symptomatology over the past two weeks. Respondents rate the intensity of the depressive symptoms on a scale of 0 to 3, and then the responses are added to derive a total score. Scores of 13 and below are considered to indicate none or minimal depression, and scores 14 and above are thought to indicate mild depression to severe depression as the scores get higher. The BDI-II has been found to have test-retest reliability over one week of .93, and it demonstrates concurrent and discriminant validity (Groth-Marnat, 2003). Internal consistency for the current sample was .80.

Parenting Stress Index Short Form. The Parenting Stress Index Short Form (PSI-SF; Abidin, 1995) is a 36-item self-report measure on which parents rate the extent to which they agree or disagree with statements about parenting

stress. The measure provides three subscales of Parental Distress, Difficult Child, and Parent-Child Dysfunctional Interaction as well as a Total Stress score. Only the Total Stress score was used in this study. The PSI-SF has acceptable test-retest reliability and good internal consistency ($\alpha = .91$). It has also been found to be highly correlated with the original, longer PSI (Abidin, 1983). Internal consistency for PSI-SF Total Stress scores in the current sample was .92.

Therapy Attitude Inventory. The Therapy Attitude Inventory (TAI; Brestan et al., 1999) is a 10-item parent-report measure completed at the end of treatment that assesses satisfaction with the therapy process and its outcomes. Parents rate items on a 1 to 5 scale, where higher ratings indicate greater satisfaction. Brestan et al. (1999) found that the TAI has high internal consistency and 4-month test-retest reliability. Internal consistency for the current sample was .83.

Attachment Q-Set. The Attachment Q-Set (AQS, Waters, 1995) was used to assess attachment security to the foster parent. The AQS was developed for use with children aged 12 to 60 months, but has been successfully used with children up to 70 months of age (Clark & Symons, 2000). The AQS consists of 90 items measuring secure base behavior and security of attachment, as well as filler items. After each home visit, the observers sort the items into nine piles and each item is assigned a numerical value 1-9. The item values are then correlated with the “ideal” secure sort to come up with the dyad’s security score. AQS item values were averaged between the two home visitors and correlated with the security criterion sort (Waters, Vaughn, Posada, & Kondo-Ikemura, 1995) to calculate the

dyad's security score. Security scores can range from -1.00 to 1.00, with higher scores indicating more security. The AQS has construct validity in assessing attachment security due to its strong association with the Strange Situation (Vaughn & Waters, 1990).

Home visits were conducted by observers who received training and supervision from the principal investigator. The principal investigator had previous experience utilizing the AQS and was trained by two Ph.D. psychologists who are experts in parent-child attachment with extensive experience utilizing the AQS. Training of observers involved reading on attachment, the Q-sort methodology, watching videotapes of home visits, doing practice sorts in the laboratory until reliability with the trainer was attained, accompanying experienced observers on a home visit and performing a practice sort based on the observations, comparison of practice sorts to sorts done by experienced observers, and finally certification for independent sorts.

Observers were blind with respect to condition the family was assigned to and pre-study measure scores. Inter-rater reliability on the AQS items between the independent observers had an average kappa value of 0.72. In prior research using the AQS, security scores of 0.33 and above have been classified as secure attachment (Howes & Ritchie, 1999). Using that cutoff, 59.3% ($n = 16$) of children in the current study were securely attached to their foster parent at pre-study, and 40.7% ($n = 11$) had insecure attachment.

PCIT Fidelity Checklist. Treatment integrity was measured using the PCIT fidelity checklists (Eyberg & Funderburk, 2011). Trained research assistants

reviewed a random sample of 25% of each foster family's audiotaped sessions and coded adherence to the PCIT manual. An independent reviewer then randomly selected 10% of those coded sessions to perform a reliability coding check. Integrity checks yielded 96% adherence to the PCIT protocol with a percent agreement interrater reliability of 94%.

Procedure

During the initial contact with foster parents, the researcher conducted a screening interview and described the study. If the foster parent continued to be interested and met inclusion criteria, an initial home visit was set up. At the home visit, the study was described in more detail and any questions were answered. Home visitors obtained informed consent from the foster parent at the beginning of the home visit. The principal investigator also obtained informed consent from DCFS for the foster child to participate in the study. In one case where DCFS had temporary custody and could not sign the consent form, the principal investigator obtained consent from the biological parent.

Eight families were randomly assigned to the CDI-only PCIT treatment condition, seven families were assigned to the CDI plus PDI PCIT treatment condition, and nine families were assigned to the waitlist bibliotherapy condition. Three families were assigned to a therapy condition, but dropped out before they were randomized to either CDI-only or CDI plus PDI PCIT treatment. Table 1 presents descriptive statistics on demographic variables for participants assigned to the three groups. There were no significant differences between the three groups on child age ($F(2,21) = 1.91, p > .05$), child gender ($\chi^2(2, N = 24) =$

0.91, $p > .05$), or foster parent age ($F(2,21) = 0.72, p > .05$). Additionally, no significant differences were found between the three groups on foster parent ethnic minority status ($\chi^2(2, N = 24) = 0.60, p > .05$), foster parent education ($F(2,20) = 1.27, p > .05$), or household income ($F(2,20) = 1.12, p > .05$). Baseline scores on outcome measures were also examined for differences between the three groups. There were no significant differences between initial attachment security ($F(2,21) = 0.01, p > .05$), initial levels of child behavior problems ($F(2,21) = 0.29, p > .05$), initial foster parent stress ($F(2,21) = 2.63, p > .05$), and initial foster parent depression ($F(2,21) = 0.61, p > .05$). Of the 27 families who enrolled in the study, six dropped out and 21 completed the study. Figure 1 depicts the participant flow from referral to study completion.

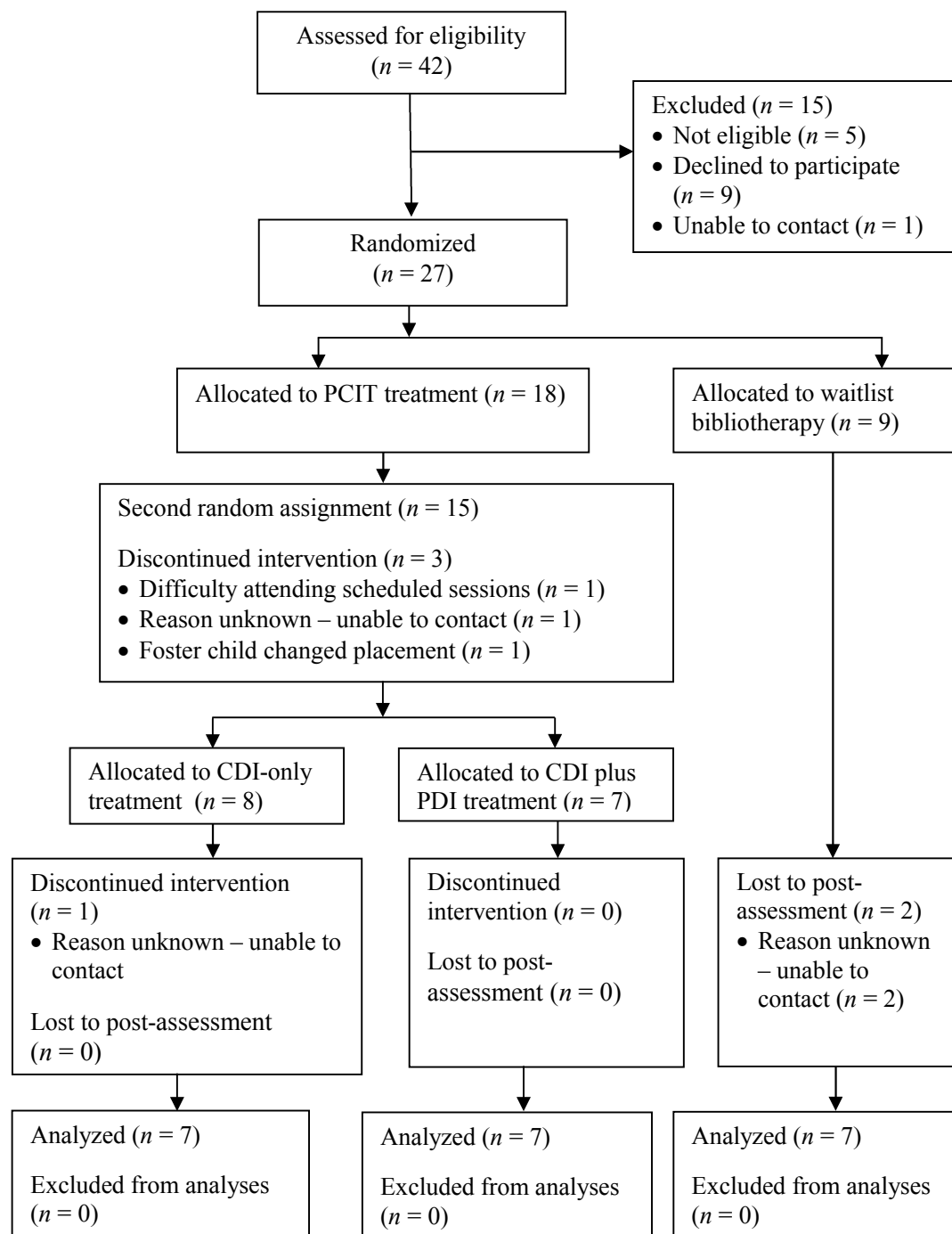
Table 1

Demographic Characteristics of Participants by Condition

	CDI-Only (n = 8)		CDI plus PDI (n = 7)		WL Bibliotherapy (n = 9)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Child age (years)	3.29	0.73	3.31	1.04	4.09	1.08
Child gender (% male)	75.0%	--	57.1%	--	77.8%	--
Foster parent age	39.25	8.58	47.57	20.08	43.44	10.26
Foster parent ethnicity (% minority)	87.5%	--	71.4%	--	77.8%	--
Foster parent education (years)	14.13	2.03	16.14	3.24	15.50	2.27
Household income ^a	4.38	2.67	3.00	2.08	4.63	1.85

^a For household income, 3 = \$20,001 to \$30,000, 4 = \$30,001 to \$40,000 and 5 = \$40,001 to \$50,000

Figure 1

Consort Participant Flow Diagram

Families assigned to the CDI-only treatment condition participated in 10-14 total 60-minute CDI sessions of PCIT up to twice a week. Families assigned to the CDI plus PDI treatment condition participated in 5-7 CDI and 5-7 PDI sessions twice a week for a total of 10-14 sessions of 60 minutes. Random assignment was done using a random number generator by a designated member of the research team. Families were randomly assigned after the first home visit and were notified whether they would be receiving waitlist bibliotherapy or PCIT treatment through a phone call by a member of the research team. If the family was assigned to a PCIT treatment condition, the family received CDI phase treatment until the mid-treatment point (between 5-7 sessions). At the mid-treatment point, the designated research team member informed the therapist as to which PCIT treatment condition the family was randomly assigned. Then the therapist informed families whether they would continue with CDI (CDI-only PCIT treatment condition) or would go on to the PDI phase (CDI plus PDI treatment condition).

To move on to the PDI phase before the seventh session or to finish treatment before the fourteenth session, families were required to have met mastery criteria. Families going through PCIT typically complete treatment in 10-14 sessions (Herschell, Caldaza, Eyberg, & McNeil, 2002). Families were given between 10 and 14 sessions to meet mastery criteria and complete PCIT treatment in this session-limited PCIT model. In addition to the 10-14 sessions, families participated in two 60-minute assessment sessions at the beginning and end of the PCIT treatment conditions to assess parent-child interactions. Families

took an average of 12.5 weeks ($SD = 3.9$) to complete the two assessment sessions and the 10-14 therapy sessions.

Families assigned to the waitlist bibliotherapy condition received a 36-page packet of educational handouts from PCIT: Anticipatory Guidance (PCIT: AG; Berkovits, O'Brien, Carter, & Eyberg, 2010) at end of the post-assessment session. This condition lasted an average of 13.8 weeks ($SD = 4.2$). The handouts provide a written description of the CDI and PDI phase skills, how to practice the CDI and PDI skills, and additional parenting “tips sheets” that are also distributed during PCIT. At the end of their participation in the program, waitlist bibliotherapy families also received a therapy referral if requested. One parent in the waitlist bibliotherapy group requested and received a therapy referral. Additionally, two families from the CDI-only group and one family from the CDI plus PDI group requested and received therapy referrals. Due to needing to assess attachment security at similar time points across the three conditions, all families received at least 10 PCIT sessions, even if families met mastery criteria before completing 10 sessions.

All PCIT sessions followed the standard PCIT protocol (Eyberg & Funderburk, 2011). The first CDI phase session was devoted to teaching the parent specific ways to communicate and interact with the child. Subsequent sessions followed a format of a brief check-in, therapist observation and coding use of parent skills, therapist coaching of the parent in the application of the skills through a bug-in-the-ear device, and a time for feedback and homework assignment at the end of the session. The therapist coached the parent to follow

the child's lead, describe the child's behavior, praise the child's appropriate behavior, and reflect appropriate verbalizations. To move on to the PDI phase before the seventh session, parents were required to meet mastery criteria, which involves using a certain number of the skills taught in the CDI phase. The first PDI phase session begins with teaching the parent about using effective commands and how to implement a time-out procedure with the child. The subsequent PDI phase coaching sessions typically followed a similar format to the CDI phase sessions, with the added component of coding and coaching PDI skills. PDI phase mastery criteria required that the parent give a certain number of effective commands and demonstrate correct follow through after the commands are given.

Therapy sessions were conducted by the principal investigator and two additional doctoral students who had at least one year of training in PCIT. Therapists were accompanied by a research assistant on every in-home therapy session. Therapists received regular individual and group supervision from Dr. Karen Budd, a Ph.D. level licensed clinical psychologist with extensive PCIT supervisory experience.

Home visit procedure. Two hour home visits were conducted to assess attachment at pre-study, mid-study, and post-study with all participants. Home visits were conducted by trained members of the research team. Two observers conducted each home visit. During the home visit, the home visitors observed behaviors and interactions of the parent and child based on the items in the Attachment Q-Set. The home visitors also brought a couple of books for the

parent and child to read that were standard across visits. Each home visit was videotaped by the home visitors. At the end of each home visit, parents were given a \$20 gift card as compensation for their time. Home visitors then came back to the lab and completed their sorts of the Q-Set items independently. Sorts were then entered into a computer and any significant disagreements were discussed.

All families filled out a demographic questionnaire at pre-study and measures on child behavior (ECBI and the Child Behavior Checklist), parent depression (Beck Depression Inventory-II), and parent stress (Parenting Stress Inventory – Short Form) at pre- and post-study. These questionnaires were administered by the research assistants at the pre- and post-study home visits. In addition, families who participated in a PCIT treatment condition filled out weekly measures on child behavior and a measure of therapy satisfaction at the end of the last treatment session. All data were confidential and kept in a locked office.

If at any point the investigator or anyone involved with the project would learn that a child may have been abused or neglected, they were prepared to follow a Child Abuse & Neglect Reporting Protocol created by the investigator. This protocol outlines what to do in case of any suspected child abuse or neglect and complies with child abuse reporting guidelines. No occasions arose for this to be used during the duration of the study.

Chapter III

Results

Statistical analyses

All data analyses were conducted using the Statistical Package for the Social Sciences, version 21.0. To investigate the three hypotheses, differences in post-study scores were examined using Analyses of Covariance (ANCOVA), controlling for pre-study scores. Using ANCOVA is recommended for randomized controlled trials over repeated measures ANOVA due to it being a more powerful method (Van Breukelen, 2006). Prior to each analysis, variables were screened for outliers and examined for normality utilizing boxplots, examining descriptive statistics, and Shapiro-Wilks test of normality (Field, 2009).

Descriptive statistics

No significant demographic or pre-treatment differences were found between families who completed the study and families who dropped out. Two marginally significant differences were found between completers and dropouts on the age of the foster child ($F(1,26) = 3.92, p = .06$) and length of time as a foster parent ($F(1,21) = 3.93, p = .06$). Families who completed the study were somewhat more likely to have older foster children ($M = 3.75, SD = 0.96$) than families who dropped out ($M = 2.89, SD = 0.89$) and have been a foster parent for a higher number of years ($M = 5.56, SD = 4.68$) than families who dropped out ($M = 1.33, SD = 0.73$). Families who were assigned to a treatment condition and completed treatment attended an average of 13.21 sessions ($SD = 1.37$), whereas

treatment dropouts attended an average of 4.00 sessions ($SD = 2.45$). No difference was found in treatment satisfaction between families assigned to the CDI-only condition ($M = 44.14$, $SD = 4.41$) and families assigned to the CDI plus PDI condition ($M = 46.00$, $SD = 3.22$). The following analyses were conducted using the study completers, ($n = 7$ CDI-only, $n = 7$ CDI plus PDI, $n = 7$ waitlist bibliotherapy). Table 2 reports means and standard deviations for the measures used in the analyses below by each condition.

Table 2

Attachment and Self-Report Measures at Pre-study and Post-study Assessment

	CDI-Only (n = 7)		CDI plus PDI (n = 7)		WL Bibliotherapy (n = 7)	
	Time 1 M (SD)	Time 3 M (SD)	Time 1 M (SD)	Time 3 M (SD)	Time 1 M (SD)	Time 3 M (SD)
AQS Security Score	0.39 (0.12)	0.32 (0.09)	0.36 (0.14)	0.47 (0.18)	0.31 (0.31)	0.36 (0.15)
ECBI Intensity	141.43 (22.21)	72.57 (22.49)	138.29 (28.41)	117.00 (27.86)	136.29 (39.88)	125.71 (36.80)
PSI-SF Total	90.29 (23.29)	67.00 (19.67)	69.43 (13.38)	78.00 (18.07)	74.71 (21.98)	76.29 (14.41)
BDI-II	5.43 (3.78)	4.29 (3.20)	3.86 (3.44)	4.57 (4.39)	7.29 (5.68)	8.14 (6.72)

Note. AQS = Attachment Q-Sort, ECBI = Eyberg Child Behavior Inventory, PSI-SF = Parenting Stress Index – Short Form, BDI-II = Beck Depression Inventory – Second edition, CDI-Only = Child-Directed Interaction Only, CDI plus PDI = Child-Directed Interaction plus Parent-Directed Interaction, WL = Waitlist.

Hypothesis I. Children who receive PCIT treatment will have a more secure attachment relationship with their foster caregiver than children who do not receive PCIT treatment.

One family in the waitlist bibliotherapy group was found to be an outlier on pre-study attachment security, so the analysis was conducted with and without the outlier case. The statistical significance did not change when the outlier was excluded; therefore, the case was used in the final analysis. Pre-study attachment security was included as a covariate in this ANCOVA analysis. There was no significant difference between families who received PCIT treatment ($M = 0.39$, $SD = 0.15$) and families who were assigned to the waitlist bibliotherapy condition ($M = 0.36$, $SD = 0.15$) on post-study attachment security, $F(1,18) = 0.18$, $p > .05$, $d = 0.20$.

Hypothesis II. Children who receive the CDI only PCIT treatment will have a more secure attachment relationship with their foster caregiver than children who receive the CDI plus PDI PCIT treatment.

Pre-study attachment security was included as a covariate in this ANCOVA analysis. There was a significant difference found between families in the CDI only treatment group and families in the CDI plus PDI treatment group on post-study attachment security, $F(1,11) = 5.82$, $p < .05$, $d = 1.29$. Children who were in the CDI plus PDI treatment group had a more secure relationship with their foster caregiver at post-treatment ($M = 0.47$, $SD = 0.18$) than children in the CDI only treatment group ($M = 0.32$, $SD = 0.09$).

Hypothesis III. Parenting stress, parental depression, and child behavior problem scores will show a larger decrease in both PCIT treatment groups as compared to the waitlist bibliotherapy group.

Pre-study scores were included as covariates in these ANCOVA analyses. There was no significant difference between families who received PCIT treatment ($M = 72.50, SD = 19.02$) and families who were assigned to the waitlist bibliotherapy condition ($M = 76.29, SD = 14.40$) on post-study parenting stress, $F(1,18) = 0.52, p > .05, d = 0.33$.

There were two parents in the waitlist bibliotherapy group who were found to be outliers on post-study parental depression, so the analysis was conducted with and without the outlier cases. The statistical significance did not change when the outliers were excluded; therefore, the cases were used in the final analysis. There was no significant difference between parents who received PCIT treatment ($M = 4.43, SD = 3.70$) and parents who were assigned to the waitlist bibliotherapy condition ($M = 8.14, SD = 6.72$) on post-study depression, $F(1,18) = 0.89, p > .05, d = 0.44$.

There was a significant difference found between families who received PCIT treatment and families who were assigned to the waitlist bibliotherapy condition on post-study child behavior problem intensity, $F(1,18) = 5.21, p < .05, d = 1.06$. Children who were in the PCIT treatment group were reported to have less behavior problems at post-treatment ($M = 94.79, SD = 33.52$) than children in the waitlist bibliotherapy condition ($M = 125.71, SD = 36.80$).

Intent to Treat Analyses

In addition to conducting analyses on the families that completed the study, intent to treat analyses were conducted with all families that enrolled in the study. Only analyses of PCIT treatment compared to waitlist bibliotherapy were

conducted due to several families dropping out before they were assigned to a specific PCIT treatment group. Of the six families that dropped out, post-study data was only available for one family. For families that were missing outcome data, the last observation was carried forward (Bagner et al., 2007). One family completed the midpoint home visit, and their midpoint AQS security score was used as the post-study score. For the other four families that dropped out and did not complete midpoint or post-study home visits, their pre-study security score was used as the post-study security score. When all study families were included in the ANCOVA, there was no significant difference found between families who received PCIT treatment and families who were assigned to the waitlist bibliotherapy condition on post-study attachment security, $F(1,24) = 0.69, p > .05, d = -0.31$.

For families enrolled in a PCIT treatment condition, parents completed the ECBI Intensity scale weekly. The last treatment ECBI Intensity score before dropping out was used as the post-study score for those families. For the two families in the waitlist bibliotherapy group that dropped out and did not complete the post-study home visit, their pre-study ECBI Intensity score was used as the post-study score. There was a marginally significant difference found between families who received PCIT treatment and families who were assigned to the waitlist bibliotherapy condition on post-study child behavior problem intensity, $F(1,24) = 4.18, p = .052, d = 0.65$. This indicated that child behavior problems remained marginally lower for the families who received PCIT treatment compared to the waitlist bibliotherapy group.

For the five families that dropped out and did not complete the post-study assessments, the pre-study PSI-SF Total scores and pre-study BDI scores were used as the post-study scores. There was no significant difference between families who received PCIT treatment and families who were assigned to the waitlist bibliotherapy condition on post-study parenting stress, $F(1,24) = 0.27, p >.05, d = 0.01$, or on post-study parent depression, $F(1,24) = 0.68, p >.05, d = 0.32$, when all study families were included in the analyses.

Research Question I. Are there differences between families in the CDI only and CDI plus PDI treatment groups on parenting stress, parental depression, or child behavior problems at post-treatment?

Pre-study scores were included as covariates in each of the following ANCOVA analyses. There was a marginally significant difference found between families in the CDI only treatment group and families in the CDI plus PDI treatment group on post-study parenting stress, $F(1,11) = 3.92, p = .07, d = 1.50$. Parents who were in the CDI-only treatment group had somewhat lower levels of parenting stress at post-treatment ($M = 67.00, SD = 19.66$) than parents in the CDI plus PDI treatment group ($M = 78.00, SD = 18.07$).

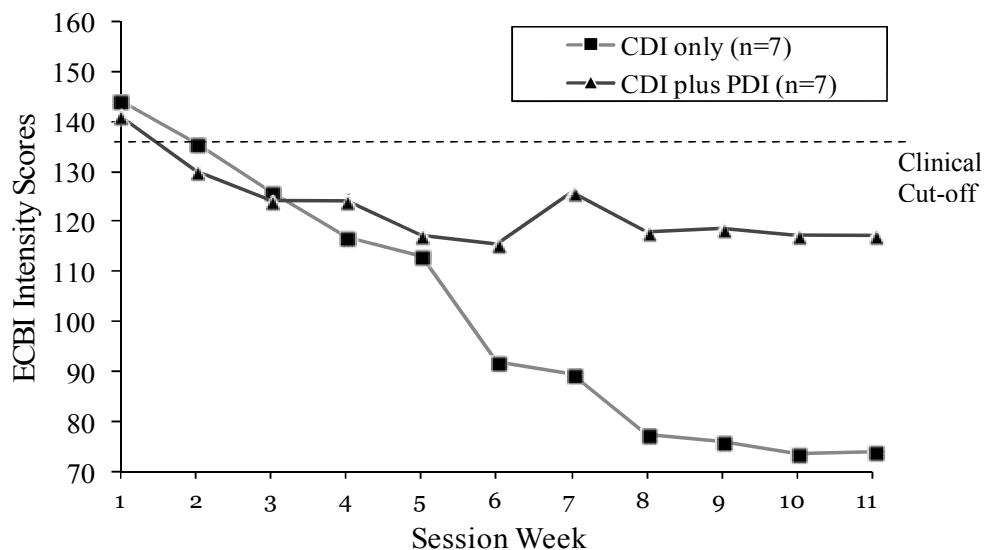
There was no significant difference between parents in the CDI only treatment group ($M = 4.29, SD = 3.20$) and parents in the CDI plus PDI treatment group ($M = 4.57, SD = 4.39$) on post-treatment depression, $F(1,11) = 0.47, p >.05, d = 0.52$.

Analysis revealed a significant difference between families in the CDI only treatment group and families in the CDI plus PDI treatment group on post-

study child behavior problems, $F(1,11) = 12.88$, $p < .01$, $d = 2.71$. Children who were in the CDI-only treatment group had lower levels of child problem behavior at post-treatment ($M = 72.57$, $SD = 22.49$) than children in the CDI plus PDI treatment group ($M = 117.00$, $SD = 27.86$). Figure 2 shows the change in weekly ECBI scores by PCIT treatment group.

Figure 2

Average Rating of Child Behavior Problem Intensity Scores During Treatment.



Note. Last session score was carried forward for families who finished earlier than week 11. Condition change occurred on average around week 6 for CDI plus PDI group families.

Chapter IV

Discussion

This study adds to the very small literature base on the effects of PCIT on attachment security, provides further evidence that PCIT is effective in reducing child behavior problems with foster care populations, and provides preliminary evidence about the differential effects of the two PCIT phases on foster parent and foster child outcomes. Group differences were found in post-study child-parent attachment, child behavior problem intensity, and parenting stress. Although these results are meaningful, as evidenced by the large effect sizes, results should be interpreted cautiously due to the small sample size.

Overall, families in the two PCIT treatment groups reported high satisfaction levels with the treatment they received. Treatment satisfaction levels were comparable to other studies of PCIT with biological parents (e.g. Schuhmann et al., 1998) and with a study of PCIT with foster parents (McNeil et al., 2005). Attrition rate from the current study was 22%, which is relatively low when compared to other PCIT studies. In Timmer et al.'s (2006) study of PCIT with foster families, 51.5% of foster parents dropped out of PCIT treatment early. Conducting the study and PCIT treatment in the home may have helped with the low attrition rates. The dropout rate in the current study was also much lower than that of other studies providing in-home services, which reported dropout rates of 34.9 to 66% (Galanter et al., 2012; Lanier et al., 2011; Ware et al., 2008). Having a limited-sessions model and offering sessions twice a week may also have helped with retaining families. Thomas and Zimmer-Gembeck (2012) had a lower attrition rate using a PCIT model with 12 coaching sessions than in their previous,

mastery-based trial of PCIT where treatment typically lasted longer than 12 sessions. The attrition rate in Stevens' (2011) study providing the CDI phase of PCIT to kin foster caregivers was 0%, and her study provided twice a week sessions for 4 weeks. Offering a more intense dose of treatment over a shorter period of time may help with retaining foster care families in treatment.

A unique aspect of the current study is that all PCIT treatment for foster families was provided in the home setting. Few studies have examined outcomes of PCIT provided in the home, although it is an often-used service delivery method in community settings for young children. In-home service delivery was chosen for the current study after consulting with supervisors from several foster care agencies who reported that many foster care and early intervention services were provided in the home and that families would be more likely to participate if the therapy services were delivered in the home. Many of the participants who received PCIT treatment stated that having someone provide therapy services in their home was helpful because they lived far from the investigator's institution or they did not have childcare for their other children. Providing in-home services has its own challenges, including distractions during sessions and travel time for the therapist. On the other hand, this study was able to reach families that may not have otherwise been able to participate in the study and obtain PCIT resources. Having an assistant to accompany the therapist and help with tasks such as sibling care was extremely beneficial, but this resource may be difficult to obtain in community settings.

The hypothesis that foster children receiving PCIT treatment would have higher attachment security scores at post-study than foster children in the waitlist bibliotherapy group was not supported. This is similar to what Stevens (2011) found in her study with relative foster caregivers but differs from findings in a study by Perez (2008), where PCIT treatment was found to affect attachment security scores and child behavior problem levels. Perez (2008) had a much larger sample size, which gave her more power to detect effects, and she also utilized the mother-rated AQS in her study. It is possible that maternal ratings could be influenced as an artifact of expecting things to improve. In the current study, the lack of significant pre-post change in attachment security scores for the CDI only group contributed to the overall non-significant difference between the two groups. Additionally, the waitlist group showed a non-significant increase in attachment security over time.

The overall finding that families receiving PCIT treatment did not have more secure attachment at the end of the study compared to the families in the waitlist group is inconsistent with the theoretical underpinnings of PCIT. It is possible that due to the small sample size of the study, there was not enough power to detect the effect of PCIT on the attachment relationship. Additionally, many of the families had secure attachment relationships at the start of the study, which could make it more difficult to detect improvements in the attachment relationship. It is also possible that PCIT does not improve attachment security immediately after treatment. In their meta-analysis on the effects of interventions on attachment and maternal sensitivity, Bakermans-Kranenburg and colleagues

(2003) found that interventions had a larger effect on maternal sensitivity than attachment at post-treatment. They posited that the changes in maternal sensitivity may not have had time to affect infant attachment security at post-treatment and that there might be a “sleeper effect” on attachment security.

Contrary to this study’s hypothesis, when comparing the two PCIT therapy groups, it was found that the CDI plus PDI treatment group had higher levels of post-treatment attachment security than the CDI only treatment group. This may be because through learning different behavior management techniques, parents were able to provide a more consistent and predictable environment, and that their foster children responded positively to this environmental change. It could be that the combination of CDI plus PDI is more powerful at enhancing attachment than the CDI phase alone. Stevens (2011) did not find a significant difference between her CDI only group and waitlist control group on attachment security at post treatment with kinship foster care families, which is consistent with the current results. However, she did find a significant improvement for the CDI only group in the child-parent relationship as measured by the Child-Parent Relationship Scale. Eisenstadt and colleagues (1993) did not find a difference at mid-treatment between the families who completed the CDI phase of treatment first and the PDI phase of treatment first on nonverbal indices of affection, and they posited an explanation that the increased parental consistency resulting from PDI may be just as potent as the skills taught in CDI on enhancing the child-parent relationship.

The hypothesis that child behavior problem intensity scores would show a larger decrease in both PCIT treatment groups as compared to the waitlist bibliotherapy group was supported. This finding is consistent with previous PCIT research with a foster care population (Timmer et al., 2006), and with other PCIT research with normal populations (Schuhmann et al., 1998). Additionally, this study found that the CDI phase only was more effective at decreasing child behavior problems than PDI and CDI phases together in this session-limited application of PCIT. This finding is puzzling, and could be related to the small sample size and the individual differences in families. It may also be that with foster children, providing positive reinforcement for desired behaviors is more helpful in reducing behavior problems than foster parents learning additional discipline strategies. Several PCIT studies have reported significant decreases in child behavior problem levels by the end of the CDI phase, before beginning the PDI phase (Eisenstadt et al., 1993; Harwood & Eyberg, 2006). It is also important to note that several of the foster families were not able to meet mastery criteria of the PDI phase skills within the seven PDI sessions before finishing treatment. In community applications of PCIT, it often takes longer for families to complete treatment than is reported in efficacy trials. For instance, in a study examining a community dissemination of PCIT, Pearl and colleagues (2012) found that it took families an average of 36 weeks to complete PCIT treatment. It is likely that with additional sessions, child behavior problems would have continued to decrease with the CDI plus PDI treatment group.

Interestingly, no difference was found between the PCIT treatment groups and the waitlist bibliotherapy group on parenting stress at post-study. Many other PCIT studies have found significant reductions in parenting stress, including PCIT studies with children in foster care (Timmer et al., 2006). Further analysis revealed that parents in the CDI only group were somewhat more likely to have lower levels of parenting stress at post-treatment than parents in the CDI plus PDI group. This finding is consistent with the findings for the difference between PCIT treatment groups on child behavior problem levels at post-treatment. Similarly, this could be impacted by the limited-sessions model and treatment finishing before some of the foster parents were able to meet mastery criteria for the PDI phase. Parenting stress levels have been found to be sensitive to child behavior problem levels with children in foster care (Fisher & Stoolmiller, 2008), so it makes sense that reductions in child behavior problem levels are mirrored by reductions in parenting stress levels in the CDI only group. These results are also consistent with N'zi's (2012) dissertation study examining kinship caregiver outcomes after participating in the CDI phase PCIT treatment. A significant decrease was found on the Childrearing Stress subscale of the PSI-SF for kinship caregivers in the treatment group at post-treatment, and these reductions were maintained at a 3-month follow-up.

There was no difference found in parental depression symptoms at post-study between the PCIT treatment groups and the waitlist bibliotherapy group, or between the two PCIT treatment groups. At pre-study, depression symptom levels were minimal for all three groups, which may have limited the ability to detect

changes in symptom levels at post-study. Other studies examining PCIT outcomes with foster parents have found changes in parent psychological symptoms.

Timmer et al. (2006) found a significant decrease in parental psychological symptoms for foster parents who completed PCIT treatment. N'zi (2012) found that kinship caregivers receiving CDI only treatment had a significant decrease in their depression symptoms compared to the waitlist group. These findings are in contrast to other PCIT studies that have not found a decrease in depression symptomatology at post-treatment (e.g. Schuhmann et al., 1998).

This study found that many foster parent-foster child dyads had high attachment security scores at pre-study. Approximately 59% of children were classified as securely attached in the current study, which is slightly less than the 62% rate found in normal populations (van Ijzendoorn, Schuengel, & Bakermans-Kranenburg, 1999). The proportion of foster children securely attached at pre-study was lower than Stevens (2011) found, but that may be due to utilizing different measures to assess attachment and her sample having different demographics. Due to utilizing the AQS to measure attachment, this study was not able to examine the rate of disorganized attachment and if that decreased with PCIT treatment. Future research should utilize the Strange Situation Procedure to measure changes in disorganized attachment rates with foster parents and children in foster care receiving PCIT treatment.

The average length of time to complete the study was longer than originally designed. Although the study was designed for families to complete it in 2 ½ months, it typically took families 4-6 weeks longer than that.

Cancellations, rescheduling, and busy schedules impacted time to complete treatment and the study. Also, several foster parents voiced that it was difficult to participate in two therapy sessions a week on top of their other commitments and additional necessary tasks involved with caring for foster children. Other foster parents reported that it was helpful to have twice a week sessions and complete the program sooner, so future research may want to examine the benefits and drawbacks of more frequent sessions with foster parents.

Obtaining referrals and recruiting foster families to participate in this study presented many challenges. A variety of strategies were used to promote awareness of the study and facilitate collaboration between the primary investigator and foster care agencies and DCFS, but they were only marginally successful. Leve and colleagues (2012) call for more studies on the effectiveness of evidence-based treatments with children in foster care, but difficulties in working with the child welfare system and recruiting participants may be a deterrent to researchers. Caseworkers often have large caseloads, making it difficult to find time to refer families to a research program. Additionally, staff turnover, especially supervisor turnover, posed a challenge for this study. Future researchers need to develop strategies to work with the child welfare system and obtain endorsement from key members within the system to ensure that research is conducted in an effective manner.

Although there were challenges with participant recruitment, one strength of this study was the unique demographics of the study sample. This sample was composed primarily of ethnic minority foster parents, the majority of whom were

single parents, and a significant proportion of the families were lower income. This differs from other published studies of PCIT with foster care populations (McNeil et al., 2005; Timmer et al., 2006), where samples contained older children on average, fewer ethnic minority parents, and more two-parent households.

Limitations

A major limitation of this study was the small sample size. With a larger sample, there would have been more power to detect the effects of treatment. Substantial efforts were made to increase referral rates and participant enrollment throughout the study, but they were only somewhat successful. Additionally, there was no follow-up conducted to evaluate the long-term effects of treatment and examine any changes over time. Obtaining information from other reporters, such as daycare providers or caseworkers, would have also helped to validate foster parent reports.

Future Directions

Although this study provides preliminary evidence about the effect of PCIT on the attachment relationship with foster families, further research examining the effect of PCIT on attachment relationships and how that affects other child and parent outcomes is needed. Rork and McNeill (2011) state that research needs to take into account pre-existing foster parent variables, including parenting stress and psychopathology, and examine how they affect treatment outcomes. The sample size in the current study was too small to examine that, but

future studies should investigate how foster parent variables affect changes in the attachment relationship during treatment.

This study found that CDI alone was more effective at reducing child behavior problem levels and parenting stress than both CDI plus PDI phases for foster families, and further research is needed to understand the mechanism for the changes found in this study. It is possible that spending more time focusing on the CDI phase skills improves parent skills in providing positive attention for desired behaviors, so research examining parental skill use in relation to PCIT treatment group and attachment outcomes is needed.

Although not directly related to the study purposes, one aspect of this study that was surprising was the length of time children had been in foster care at their current placement. Children in this sample were reported to have been in foster care at their current placement for an average of 2 years, and one child in the sample had been in foster care for 5 years after being placed in their current placement at 8 months of age. A major goal of child welfare services is to ensure that children achieve permanency as quickly as possible, due to the importance of a stable environment to form an attachment relationship with their caregiver and to have optimal development. More research needs to be done on strategies and interventions to reduce time to permanency for these young children in foster care. In addition, studying if PCIT could be an effective intervention for children who had experienced previous placement disruption in maintaining their current placement could be helpful in reducing negative effects associated with placement disruption.

This study provides further support that PCIT can be effective with foster care populations, and that delivering PCIT in-home is feasible and can help reach families that may not otherwise be able to participate in treatment. Improving foster care agency engagement in referring families to evidence-based treatment and research studies on those treatments will be important for future studies. Once parents are referred and enroll, they report finding the services helpful, as demonstrated by the high levels of treatment satisfaction and low dropout rates in this study. This study also provides preliminary evidence about the different effects of the two PCIT phases on foster parent stress, foster child behavior problems, and foster child-parent attachment. Additional research in this area to further understand these findings will be important in understanding how treatment can affect these foster parent and foster child outcomes.

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Appendix A
Child Abuse & Neglect Reporting Protocol

Child Abuse & Neglect Reporting Protocol

1. Anytime you have a concern about a family, even if you cannot put your finger on exactly what is wrong, it is important to follow-up. This may be a rare opportunity to reach a parent or child who is in need of help. You do not need to personally intervene with anyone. You need only to report your observations to the supervisor quickly.

In fact, we are required by law and the IRB protocol to make a report whenever we have reasonable cause to believe that a child known to us in our professional or official capacity may be abused or neglected.

2. Early in the home visit, consider the following questions, and follow-up if necessary.

Do you have any concerns about this family?

Lack of resources?
 Mental health issues?
 Substance abuse issues?
 Physical abuse?
 Sexual abuse?
 Emotional abuse?
 Physical neglect?
 Other?

Are there signs that the child is currently in danger?	Yes	No	Maybe
Are there signs that the parent is currently in danger?	Yes	No	Maybe

Examples: suspicious bruises, child or parent describes abuse

3. FOR ANY CONCERNS: Call the supervisor as soon as possible. Call Christina Danko at xxx-xxx-xxxx (cell). If this occurs during the home visit, one RA should leave (i.e. go outside, go to the car) and make the phone call while the other RA stays with the family.

Do not:

Ask the participants questions or try to interview anyone.
 Intervene in a physical confrontation.

4. Your supervisor will follow up with you as soon as possible about the actions that were taken.

For principal investigator and faculty sponsor:

Supervisors will make a case-by-case determination of risk based on the RAs' reports and information they gather on their own.

1. Supervisors will try to gather the following information:

Is it past abuse? Has it been reported previously?

Does the child have no/limited contact with offender (e.g. separated parents, foster care)?

Sub-threshold level (such as spanking or children who arrive in dirty clothes)?

Not abuse-related?

If yes → supervisor will gather more information and help participant call for assistance or refer to community resources depending on the situation.

Is it current abuse?

Is DCFS already involved?

If yes → First, gather more information and ask parent to assist with call to DCFS. Consider whether the report needs to be made immediately, or if the supervisor can give the parent a follow-up call the next day to decide on the best course of action. The Principal Investigator will consult with the faculty sponsor about the best course of action. If child is in immediate danger, and parent is uncooperative, call DCFS. Inform parent that report has been made (unless it is unsafe to do so).

2. If a report is made, the investigator will inform the IRB office about the report. The investigator will also follow-up with the RA who reported the concerns.

Appendix B
Background Questionnaire

Background Questionnaire

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

ABOUT YOUR FOSTER CHILD (AGES 2 to 5 YEARS):

1. What is your foster child's age? _____ years _____ months
2. What is your foster child's date of birth? Month _____ Day _____ Year _____
3. What is your foster child's gender? ___ Boy ___ Girl
4. What is your foster child's ethnicity?
 - ___ African American or Black
 - ___ American Indian or Native American
 - ___ Asian American or Asian
 - ___ European American, White, or Caucasian (not Hispanic)
 - ___ Latino or Hispanic
 - ___ Mixed; Parents are from two or more different groups
Please specify: _____
 - ___ Other ethnicity not included here
Please specify: _____
5. What was the date your foster child was placed with you? _____

ABOUT YOURSELF – FOSTER CAREGIVER:

1. What is your gender?
 - ___ Female
 - ___ Male
2. What is your age? _____ years
3. What is your ethnicity?
 - ___ African American or Black
 - ___ American Indian or Native American
 - ___ Asian American or Asian
 - ___ European American, White, or Caucasian (not Hispanic)
 - ___ Latino or Hispanic
 - ___ Mixed; Parents are from two or more different groups
Please specify: _____
 - ___ Other ethnicity not included here
Please specify: _____
4. What is the highest number of years of schooling you have completed (beginning with 1 for first grade and including any years of college)? _____

CONTINUED ON NEXT PAGE

Background Questionnaire (continued)

5. What is your yearly family income?

- under \$10,000
 \$10,001 to \$20,000
 \$20,001 to \$30,000
 \$30,001 to \$40,000
 \$40,001 to \$50,000
 \$50,001 to \$60,000
 \$60,001 to \$100,000
 above \$100,001

6. Which best describes your marital status?

- Single, never married
 Cohabiting, living with a partner in an intimate relationship
 Married
 Separated
 Divorced
 Remarried
 Widowed

7. What is your occupation?

8. How long have you been a foster parent? _____ years _____ months

9. How many other foster children are in the home? _____

10. Please circle the gender and list the current age of each of your children:

<u>Gender</u>	<u>Age</u>
M F	_____ years
M F	_____ years
M F	_____ years
M F	_____ years
M F	_____ years
M F	_____ years
M F	_____ years
M F	_____ years

THANK YOU!