



Parent–Child Interaction Therapy as an attachment-based intervention: Theoretical rationale and pilot data with adopted children



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ABSTRACT

Children with histories of child abuse and neglect, particularly children residing in foster or adoptive homes, are commonly considered by many professionals to need “attachment therapy” in order to address emotional and behavioral needs. However, evidence-based treatments rarely utilize an attachment-based justification outside of the infancy through preschooler age range. In actuality, many evidence-based treatments can be understood through the lens of attachment theory. This paper reviews the tenets of an attachment-based approach to treatment and describes how one evidence-based treatment, Parent–Child Interaction Therapy (PCIT), conforms to all expectations and requirements prescribed by attachment theory and research. Next, pilot data from an open trial of PCIT with a sample of adopted children and their adoptive caregivers ($n = 85$) are provided. Results demonstrate significant improvements in positive parenting techniques, reductions in parenting stress, and reductions in externalizing and internalizing concerns among the children. These results are discussed in the context of improving the quality of care for children often described as in need of “attachment therapy.”

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1. Introduction

Approximately 136,000 children were adopted annually in the United States during the years 2007 and 2008, representing a 6% increase in the number of adoptions since 2000 (Child Welfare Information Gateway, U.S. Department of Health and Human Services, 2011). Studies demonstrate that adopted children are at a significantly increased risk of developing various external behavior problems (e.g., oppositional behavior, hyperactivity, aggression, conduct problems; Gunnar, Van Dulmen, & The International Adoption Project Team, 2007; Simmel, Barth, & Brooks, 2007). In addition, common risk factors such as child maltreatment and multiple pre-adoption placements (Hussey, Falletta, & Eng, 2012; Lewis, Dozier, Ackerman, & Sepulveda-Kozakowski, 2007) appear to predict externalizing behavior problems among adopted children, and these difficult behaviors may deter many foster parents from adopting the children under their care (Leathers, Spielfogel, Gleason, & Rolock, 2012).

Fortunately, research is demonstrating that positive family interactions and coherence among the adopted family predicts improved emotional and behavioral functioning among adopted children (Ji, Brooks, Barth, & Kim, 2010). The role of the family and post-adoptive parent–child relationship has received significant attention over the past 20 years, with much of the research coming from attachment

researchers. For instance, complex prospective studies examining attachment concepts, such as the Bucharest Early Intervention Project (Smyke, Zeanah, Fox, Nelson, & Guthrie, 2012) and the work of Juffer, van IJzendoorn, Bakermans-Kranenberg and colleagues (Beijersbergen, Juffer, Bakermans-Kranenburg, & van IJzendoorn, 2012; Jaffari-Bimmel, Juffer, van IJzendoorn, Bakermans-Kranenburg, & Mooijaart, 2006) demonstrate that parental sensitivity and support in a post-placement home exert a profound influence on the future social and emotional functioning of the child.

This work on attachment and adoption has led many to assert that attachment-focused treatment is necessary for adopted children with significant emotional and behavioral problems. Indeed, attachment-derived evidence-based treatments (EBTs), with demonstrated positive effects on attachment security and emotional and behavioral functioning, are available for infants and preschoolers (Bernard et al., 2012; Hoffman, Marvin, Cooper, & Powell, 2006; Lieberman, Ippen, & Van Horn, 2006). However, comparatively little attachment-related research has occurred with school-age children and available EBTs for this age range do not typically promote an attachment-based theoretical rationale for treatment. This creates a situation where questionable and unvalidated interventions, purportedly based in attachment theory, are viewed in some quarters as the only available or appropriate treatments for this population (see Allen, 2011a for a review).

Unfortunately, very little well-conducted treatment research has focused specifically on adopted school-age children. In the only identified randomized controlled trial, Rushton, Monck, Leese, McCrone, and Sharac (2010) examined two different interventions with adoptive

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parents and their children. The first was an “advice” program utilizing a study-specific protocol incorporating some components of EBTs (e.g., praises, timeout), but was not a pre-tested EBT and it does not appear that experiential coaching and feedback of the parenting skills was conducted. The second intervention was an “educational” program that focused on discussing common issues involved in parenting adopted children. Neither intervention appeared effective at reducing externalizing problems when compared to a services-as-usual condition.

Parent–Child Interaction Therapy (PCIT) is a widely recognized EBT for children with externalizing behavioral problems that teaches parents to provide positive attention to the child’s desired behaviors, and implement non-violent consequences when needed (McNeil & Hembree-Kigin, 2010). PCIT is unique among parent training programs because of the live coaching in session that the caregiver receives from the clinician. Didactic sessions are used to discuss the skills with the caregivers, but the vast majority of sessions involve the clinician providing feedback and instruction to the caregiver as he or she interacts with the child. This collaborative process allows for a discussion of barriers in the home and the development of solutions that utilize the skills being learned in sessions. A recent meta-analysis of PCIT clinical trials demonstrated the effectiveness of PCIT for reducing externalizing behavioral problems and parenting stress (Thomas & Zimmer-Gembeck, 2007). In addition, research demonstrates success using PCIT with physically abusive parents (Chaffin et al., 2004; Thomas & Zimmer-Gembeck, 2012; Timmer, Urquiza, Zebell, & McGrath, 2005), depressed mothers (Timmer et al., 2011) and foster children (Timmer, Urquiza, & Zebell, 2006), suggesting the potential benefit of PCIT for children experiencing disrupted or sub-standard parent–child relationships.

Although PCIT is an EBT for child externalizing problems that emphasizes enhancing the parent–children relationship, two primary barriers appear to prevent the more widespread use of PCIT for adopted children. First, data are not available to demonstrate the effectiveness of PCIT with adopted children. Some may argue that these children, by virtue of their experiences and situation, present unique challenges and difficulties that are not well represented in other clinical trials of PCIT, thus limiting the generalizability of previous studies to this population. Second, and perhaps more influential, is the belief by many in the adoption and child welfare field that adopted children often require “attachment therapy” to ameliorate the problems with which they present. Although attachment theory forms part of the theoretical foundation for PCIT (Querido & Eyberg, 2005; Zisser & Eyberg, 2010), PCIT is primarily promoted from a social learning/behavioral theoretical framework. As such, PCIT may not be given due consideration by many service brokers when selecting treatment options for adopted children.

The current article aims to address these two barriers to the implementation of PCIT for adopted children. First, an explication of attachment theory and research, and the treatment principles derived from that framework, will be provided. Central to this discussion will be the manner in which PCIT fits within the treatment directives prescribed by attachment theory and research. Second, data from an open trial of PCIT with adopted children will be presented. The outcomes obtained are evaluated in light of their relevance to attachment-related concepts.

2. Treatment goals from the perspective of attachment theory

John Bowlby (1969/1982, 1973, 1980) originally outlined attachment theory as an approach to understanding social and emotional development. His postulation was that young children seek proximity to a caregiver, particularly during times of fear or distress, as a mode of survival in a world that they are ill-equipped to navigate. A supportive caregiver, who provides a “secure base” for the child, encourages the child’s exploration and development of new skills. Through repeated successful experiences of seeking and obtaining the comfort and safety of a sensitive and responsive caregiver, the child begins to develop his or her own emotion regulation and social skills. In addition, the child develops cognitive perceptions (termed *internal working models*)

about him or herself, other people, and the interactions that occur between individuals.

From this initial conceptualization, Mary Ainsworth, Mary Main, and their colleagues conducted intensive observations of children’s behaviors with caregivers and identified the familiar attachment classifications (*secure, resistant/ambivalent, avoidant, disorganized*; Ainsworth, Blehar, Waters, & Wall, 1978; Main & Solomon, 1990). These classifications categorize the quality and organization of the child’s strategy for engaging a specific caregiver when distressed, and are thought to reflect healthy (i.e., secure) or worrisome (i.e., resistant/ambivalent, avoidant, disorganized) modes of achieving a sense of safety and security. Validating Bowlby’s original hypothesis, research has demonstrated that consistently responsive and sensitive parents are more likely to yield children with a secure attachment, while less consistent and/or responsive parents are more likely to have children with insecure attachments (Egeland & Farber, 1984; National Institute of Child Health and Human Development Early Child Care Research Network, 1997). Children of maltreating caregivers are those most likely to show disorganized attachments to those caregivers (Cicchetti, Rogosch, & Toth, 2006). See Allen (2011b) and Breidenstine, Bailey, Zeanah, and Larrieu (2011) for a more in-depth discussion of these issues.

Although attachment classifications identify behaviors believed to be adaptive for the child, the value to treatment for school-age children requires demonstrating connections between early attachment relationships and later functioning. It is generally regarded in the scientific literature that early attachment relationships and behaviors do not directly result in later emotional and behavioral problems (Sroufe, Carlson, Levy, & Egeland, 1999); however, poor early attachment experiences (as well as other adverse events) are considered significant risk factors for the development of problematic coping skills, social skills, self-perception, and other basic competencies that may more directly impact the development of psychopathology (Sroufe, Egeland, Carlson, & Collins, 2005). Indeed, significant research demonstrates that early attachment relationships are related to later social acceptance and working models (Booth, Rubin, & Rose-Krasnor, 1998), self-concept (Cassidy, Ziv, Mehta, & Feeney, 2003) and social skills (Schneider, Atkinson, & Tardif, 2001). Longitudinal analyses demonstrate that these variables mediate the relationship between early caregiving experiences and later psychopathology in childhood (Alink, Cicchetti, Kim, & Rogosch, 2009; Kim & Cicchetti, 2010).

These attachment-related research findings fit within the current emphasis on the concept of developmental trajectories. In short, early attachment experiences, as well as other events such as poverty, trauma, and social support, are influential in the development of the child’s emotion regulation abilities, perceptions of self and others, social skills, and other core competencies. The maladaptive competencies that are developed throughout one’s life are more proximal to emotional and behavioral problems than early childhood attachment, and are believed to be more direct in their impact on the development of psychopathology (Sroufe, 2005). The interested reader is referred to Sroufe et al. (2005) for an examination of a well-conducted prospective study examining these concepts and contentions.

The concept of developmental pathways is similar to the case made by Bowlby (1988) when discussing the impact attachment may have on emotional and behavioral problems. The proposition by Bowlby, and others (Cicchetti & Rogosch, 1996; Sroufe, 2005), is that development occurs within one’s context and may take several forms. In essence, behavior and emotions at any given time are the result of previous experiences and one’s current situation. Just as experiences early in life may result in the development of aberrant competencies and skills, experiences later in life may begin improving those skills and moving one toward a more healthy trajectory. In short, attachment and developmental research emphasize operating within the child’s current context if one attempts to alter his or her emotional or behavioral functioning.

Not to be overlooked in the discussion of social and emotional development is the development of one’s cognitive abilities. Bowlby

(1973, 1980) was aware of the advances being made in the field of cognitive development and made reference to the impact that a child's expanding cognitive abilities play in behavior and emotions. A school-age child's expanding cognitive skills allow him or her to venture away from the physical proximity of a caregiver because of the knowledge that the caregiver is available when needed (Ammaniti, van Ijzendoorn, Speranza, & Tambelli, 2000). In other words, the child is knowledgeable and capable of accessing the caregiver during times of distress (e.g., remembering and dialing a telephone number). In addition, this ability to leave physical proximity to the caregiver is the result of the child's development of an internal working model of a supportive and responsive caregiver; the knowledge that an adequate caregiver is available, even if not present. The cognitive developmental level achieved by school-age children results in a much greater clinical and research emphasis being placed on the child's internal working models.

From attachment theory and research, Allen (2011a) derived four primary treatment principles with school-age children:

1. Treatment should aim to establish an adequate relationship with a defined attachment figure (e.g., biological parent, adoptive parent), if one does not already exist. Establishment of such a relationship will provide a potent source of experiences that can challenge a child's maladaptive internal working models of him or herself, other people, and the common interactions that occurs between individuals. In addition, that relationship can enhance and serve as a vehicle for the development of new social and emotion regulation skills. In essence, these targets of intervention serve as attachment-derived treatment goals.
2. Treatment should enhance the caregiver's ability to identify and respond to the child's emotions and behaviors. This includes teaching the caregiver to respond in a consistently supportive, non-violent, and non-coercive manner, as these skills will serve to establish an effective parent-child relationship. Treatments that utilize physical holding as a bonding technique, power assertive parenting methods, and other forms of coercion are not supported by attachment theory and research, have no empirical basis, and should be avoided.
3. Treatment should be present-focused and attempt to improve the child's functioning within his or her current context. The skills and techniques used to improve the parent-child relationship in session should be generalizable to other settings outside of the clinic to create a more consistent and pervasive change in the child's environment. Past-focused techniques designed to remediate poor early childhood experiences (e.g., feeding with a baby bottle, rocking and cradling, crawling) are not prescribed by attachment theory or research, lack empirical merit, and should not be considered a treatment option.
4. Treatment should be cognizant of the child's cognitive and other developmental abilities. Techniques should further develop the child's competencies, value the child's current skills, and be sensitive and appropriate to the child's current ability. The reader is cautioned against being swayed by arguments about "working at a child's social or emotional level." Development is an ongoing and continual process and multiple skills and competencies are being developed concurrently. It is unwise to focus solely on any one domain of development when conducting assessment and treatment.

3. PCIT as an attachment-based intervention

3.1. Parent-Child Interaction Therapy: an overview

PCIT is a 14- to 20-week, manualized intervention founded on social learning, behavioral, and attachment theories. The evidence supports the effectiveness of PCIT for children between 2 and 7 years of age with externalizing behavior problems (Eyberg & Robinson, 1983). Similar to other parent-training programs, PCIT provides parents with behavior modification skills so that they become the agent of change

in reducing the child's behavior problems. PCIT incorporates both parent and child in the treatment sessions and uses live, individualized therapist coaching for an idiographic approach to changing the dysfunctional parent-child relationship.

PCIT is conducted in two phases. The first phase focuses on enhancing the parent-child relationship (Child-Directed Interaction; CDI), and the second on improving child compliance (Parent-Directed Interaction; PDI). Both phases of treatment begin with an hour of didactic training, followed by sessions in which the therapist coaches the parent during play with the child. From an observation room behind a two-way mirror, via a 'bug-in-the-ear' receiver that the parent wears, the therapist provides the parent with feedback on their use of the skills. Parents are taught and practice specific skills of communication and behavior management with their children. In addition to practicing these skills during clinic sessions, parents are asked to practice with their children at home for 5 minutes every day.

In CDI (typically 7–10 sessions), parents are coached to follow their child's lead in play by describing their activities, reflecting their appropriate verbalizations, and praising their positive behavior. By the end of CDI, parents generally have shifted from rarely noticing their children's positive behavior to more consistently attending to or praising appropriate behavior. Caregivers are considered to have mastered the skills taught in CDI by demonstrating in a 5 minute assessment that they can give behavior descriptions (e.g., "You are building a red tower."), reflections (i.e., repeating back or paraphrasing the child's words), and praises (e.g., "You are doing a great job playing so gently with these toys."), with few instances of asking a question and/or giving a command, and without criticizing the child. They then move to the second phase of treatment. It should be noted that the PCIT described in this paper uses "Rules for Special Playtime" and several other non-coercive strategies to manage children's difficult behavior during CDI. This adaptation is used by many clinics that primarily treat high-risk, child welfare populations, but diverges from the traditional form of PCIT.

In PDI (typically 7–10 sessions) therapists train parents to give only clear, direct and essential commands, maximizing chances for compliance. These parents traditionally learn a specific method of using time-out for dealing with noncompliance and may also be taught "hands-off" strategies (e.g., removal of privileges) if indicated. These methods are designed to provide caregivers tools for managing their children's behavior while helping them to avoid using physical power and to focus instead on using positive incentives and promoting children's emotional regulation. Mastery of behavior management skills is achieved when therapists observe that caregivers are able to use the strategies without being coached, and when parents report that these strategies are effective. By the end of PDI, the process of giving commands and obtaining compliance are predictable and safe for parents and children.

3.2. PCIT and attachment

The first attachment-derived treatment principle is to focus on developing a strong parent-child relationship. Indeed, the positive attention skills taught to the parent in the CDI portion of PCIT focus specifically on building the parent-child relationship, making this the first goal of PCIT from the outset of treatment. Clinical trials have documented improved parent-child relationships marked by more positive interactions between the parent and child (Thomas & Zimmer-Gembeck, 2011), reductions in parental stress related to the parent-child relationship (Pearl et al., 2012; Timmer, Ware, Urquiza, & Zebell, 2010), and improved emotional availability of children toward their parents (Timmer et al., 2011). Although it is difficult to directly assess internal working models of school-age children, improving the parent-child relationship serves as a potent source of information that can begin shifting the child's views of self and others toward a more healthy structure. In addition, significant positive results for internalizing (e.g., depression,

anxiety) and social problems suggest that PCIT is effective for improving emotion regulation and social skills (Chase & Eyberg, 2008; Funderburk et al., 1998; Timmer et al., 2005). Taken together, these results suggest that PCIT is capable of significantly improving the parent–child relationship and that PCIT may prompt improved emotion regulation and social skills. In short, PCIT appears to meet the primary treatment goals proposed by attachment theory and research.

Second, PCIT places a premium on the ability of the caregiver to respond to the child in a supportive, empathic, and non-coercive way, the same parental behaviors suggested by attachment theory and research as promoting secure attachments and positive social and emotional development. The learned skills increase the caregiver's ability to sensitively attend to the child and provide positive attention. The discipline techniques employed in PCIT are non-violent and not power assertive; parents are taught to provide discipline in a neutral and attentive manner. Caregivers are coached to return to use of the positive attention skills (e.g., praises, reflections, behavior descriptions) after the implementation of the discipline techniques and to continue focusing on building and maintaining a positive relationship with the child. Empirical examination demonstrates that PCIT results in improved parental sensitivity to the child (Thomas & Zimmer-Gembeck, 2011, 2012), increases in positive parental responses (Hakman, Chaffin, Funderburk, & Silovsky, 2009; Harwood & Eyberg, 2006), and reductions in coercive and rigid parenting beliefs (Chaffin et al., 2004; Timmer et al., 2005). Theoretically, and empirically, PCIT appears to improve parental sensitivity and responsiveness, as well as reduce parental coerciveness. As such, PCIT teaches and yields the desired parental beliefs and behaviors prescribed by attachment theory and research.

Third, PCIT is focused on changing the child's current environment, especially within the parent–child dyad. The use of PCIT skills are meant to be generalized to the home and community environments and parents are encouraged to practice the skills during the week. This practice includes using the skills during ordinary daily interactions with the child and assigned "homework" to practice the skills each day in a defined play session with the child. Other caregivers are encouraged to utilize the skills for environmental consistency and changes within the home and school (e.g., routines, structure) are frequently encouraged. Evaluations of PCIT in home settings have produced positive results (Galanter et al., 2012; Ware, McNeil, Masse, & Stevens, 2008) and adjunct in-home PCIT coaching appears to increase the effectiveness of the intervention among those receiving clinic-based services (Timmer, Zebell, Culver, & Urquiza, 2010). PCIT is a present-focused intervention and the skills can be generalized outside of the clinic, resulting in a more consistent and sustained change in the child's environment that directly impacts the child's behaviors and the parent–child relationship.

Finally, PCIT is sensitive to a child's cognitive developmental level. The clinician coaches the caregiver to deliver the PCIT skills in a manner that is appropriate for the child's cognitive abilities and/or limitations. This may include the clinician providing information about developmental expectations; providing coaching in delivering commands, praises, and other verbalizations in a developmentally appropriate way; and using the PCIT skills to further development the child's cognitive skills (e.g., teach concepts, increase vocabulary, refine speech). Results of clinical trials of PCIT demonstrate that the skills are effective for improving behavioral problems among children with autism spectrum disorders (Solomon, Ono, Timmer, & Goodlin-Jones, 2008) and intellectual disability/mental retardation (Bagner & Eyberg, 2007), as well as for improving language abilities of children with expressive language difficulties (Allen & Marshall, 2011). In addition, suggestions for the use of PCIT for children with severe traumatic brain injury (Cohen, Heaton, Ginn, & Eyberg, 2012) and developmental disabilities (McDiarmid & Bagner, 2005) are available. In short, PCIT is effective with children showing a wide range of cognitive abilities whether it be the nature of one's level of cognitive development or the result of a biologically-based syndrome or insult. The critical factor is that the clinician coaches

the caregiver to deliver the techniques in a manner that is consistent with the child's level of cognitive sophistication.

In summary, PCIT is an effective intervention for treating a child's externalizing behavioral problems, as well as reducing internal distress. From an attachment perspective, PCIT delivers precisely what one would predict: Notable increases in supportive, attentive, and empathic behaviors from the parents resulting in a significantly improved parent–child relationship. Adding to the improved quality of interactions between the parent and the child are the marked improvements in the child's emotion regulation and social skills, two of the primary treatment goals prescribed by attachment theory and research. By achieving these goals through a concentration on changing the child's current environment and respecting his or her cognitive abilities, PCIT embodies all of the aspects of an appropriate and theoretically-justifiable "attachment-based intervention."

4. A pilot study of PCIT with adopted children

The purpose of this pilot study is to examine PCIT's effectiveness for increasing positive parenting skills, reducing children's behavior problems, reducing parents' stress, and improving the parent–child relationship with a sample of children typically considered in need of attachment-focused treatment. The sample consists of clinic-referred pre-adoptive and adoptive parent–child dyads considered high-risk because of the child's history of maltreatment, which increases the likelihood that children will have less optimal attachment to their caregivers. We hypothesized that significant improvement would be observed in all areas from pre- to post-treatment.

4.1. Participants

Information from a sample of 85 children referred for PCIT between August 1997 and March 2013 for treatment of their disruptive behavior problems and difficult-to-manage behavior was used for these analyses. Dyads were eligible for inclusion if the child was at least 2 and less than 8 years of age (Mean = 4.45 years, $SD = 1.61$), with a parent that was either adoptive or in the process of adopting the child, had participated in standard, clinic-based PCIT, had completed at least all pre-treatment measures of child behavior problems and another assessment at mid- or post-treatment. If more than one caregiver participated in treatment, the primary participant was selected. If both parents participated equally, one of the two was randomly selected to insure independence of measures. If a sibling set participated in treatment and both siblings met the criteria for assessments (i.e., at least one measure completed pre-treatment and either mid- or post-treatment), only the younger child was included in the study. This sample represented 78.7% of all adoptive and pre-adoptive parent–child dyads in the appropriate age range that had completed pre-treatment assessments: 22 dyads (21.3%) terminated treatment before the mid-treatment assessment; 5 of these dyads never started treatment.

The treatment setting was a university hospital-based outpatient clinic primarily serving children with a history of maltreatment. Children were assessed to determine the presence of a child mental health diagnosis and the appropriateness of PCIT. All participants met county-defined criteria for medical necessity; 35% of the sample was referred to treatment by a child welfare social worker; and the court was involved in the child's mental health treatment in 9.5% of cases. The University of California, Davis IRB approved the consent form and the description of the study, and all participants gave informed consent to participate in research.

4.1.1. Description of dyads participating in PCIT

Half (51%) of the 85 children were male; and approximately 45% of the children were Caucasian, 27% were African American, 24% were Latino, and 4% were other ethnicities. All of the adoptive children in this sample had experienced some early adverse experience. More than

two-thirds (70.6%) of the children had been maltreated or exposed to interparental violence; and close to half of the children (43.5%) had suffered more than one type of risk: 33% had been physically abused, 65% had been neglected, 9% had been sexually abused, and 48% had been exposed to interparental violence. The remaining 30% of children who had not been maltreated or exposed to violence had been prenatally exposed to drugs.

These children participated in PCIT along with either of their adoptive parents, varying both in how long they had lived with their adoptive families and how far along they were in the adoption process. Two-thirds of children (66.7%) had lived with their adoptive parents for one year or longer; 12.1% had lived with them between 6 months and a year; the remaining children had lived with their adoptive families for less than 6 months (21.2%). While we did not know specific information about where dyads were in the process of adoption, we know that as of the pre-treatment assessment, approximately two-thirds (63.5%) of children did not share the same last name as the parents, while a third did share the same last name.

In 26.5% of cases, two parents participated in at least some of their children's PCIT sessions. The large majority of the caregivers participating in treatment with the child were female (88.2%). About 83.9% of parents were married (79%) or cohabitating (4.9%). Approximately 64% of parents were Caucasian, 17% were African American, 14% were Latino, and 6% were other ethnicities. Parents and children were likely to be matched in ethnicity (65.9% matched; Spearman $r = .26$, approximate $T = 2.49$, $p = .015$).

4.2. Procedures

Parents were given a battery of standardized measures and a short demographic questionnaire after they came to the clinic for the first time. Parents were asked to complete the assessments before beginning treatment, after the first phase of treatment (CDI), and immediately post-treatment. Additionally, therapists conducted a videotaped 15-minute semi-structured observational assessment of the quality of caregiver and child interactions. The parent and child played together at a table in a room equipped with a two-way mirror, and were concurrently videotaped. The parent wore a "bug-in-the-ear" device, so that they could hear the therapist from the other side of the 2-way mirror.

Dyads were considered to have completed treatment after the parents mastered the skills taught in both the CDI and PDI portions of PCIT and children responded to their parents' efforts to manage their behavior. For example, if a child had a tantrum and the parent without coaching could not help the child to recover sufficiently to resume play, they were not graduated. In the current sample of participants with two assessment points, 84.5% graduated and 15.5% were considered to have terminated treatment early. The average number of treatment sessions (including assessments) to treatment termination was 17.26 ($SD = 6.7$).

4.3. Measures

4.3.1. Child Behavior Checklist (CBCL)

The CBCL is a standardized instrument that lists approximately 100 child behavior problems. Parents or regular caregivers are asked to report on the frequency of problem behaviors in their children on a 3-point scale (0 = never to 2 = often). Separate norms are provided for boys and girls. This study spanned older and newer versions of two forms of the CBCL: one form is designed for young children (Achenbach, 1994a; Achenbach & Rescorla, 2000) and one for middle childhood and teen years (Achenbach, 1994b, 2001). Therapists transitioned from the old to the new versions of the CBCL in 2003, and were careful to administer the same version at both assessment points, so that a dyad's pre- to post-treatment change would be measured by the same version. This study utilizes the CBCL's two broadband scales (Internalizing and Externalizing Behaviors), and the Total Problem

score as measures of children's symptom severity. Although these scales are composed of slightly different items in the forms for younger and older children, it is assumed that the meaning of internalizing, externalizing, and total problem behaviors is consistent across forms. The old and new versions of the broadband scales of the CBCL are highly correlated (Achenbach, 2001; Achenbach & Rescorla, 2000). No differentiation of scores from the two versions is made in this study.

4.3.2. Eyberg Child Behavior Inventory (ECBI)

The ECBI (Eyberg & Pincus, 1999) is a 36-item scale that measures behavior problems exhibited by children aged 2 to 16 years. In contrast to the CBCL, the ECBI lists behaviors more commonly associated with disruptive behavior disorders (e.g., dawdling, arguing or fighting with siblings, sassiness). Caregivers indicate the frequency of these behaviors along a 7-point scale (1 = never to 7 = all the time) and whether they perceive the behavior as a problem (0 = No, 1 = Yes). Resulting scales reflect the intensity and number of behavior problems. The reliability and validity of the ECBI is well established (Eyberg & Pincus, 1999).

4.3.3. Parenting Stress Inventory – Short Form (PSI-SF)

The PSI-SF (Abidin, 1995) was designed to identify parent-child dyads experiencing stress and at risk for developing parenting and child behavior problems. The PSI-SF contains 36 items rated on a 5-point scale (1 = strongly disagree to 5 = strongly agree), grouped into three scales: Parent Distress (PD), Parent-Child Dysfunctional Relationship (P-C Dys), and Difficult Child (DC). The Parent Distress scale measures parents' feelings of distress (e.g., parent competence, depression, social isolation). The Parent-Child Dysfunctional Relationship scale reflects the degree to which the parent perceives the child as happy and healthy, and perceives the parent-child relationship as rewarding. The Difficult Child scale measures the parents' perceptions of the child's moods, adaptability, and demandingness. The PSI-SF demonstrated acceptable reliability and validity as reviewed by Abidin (1995).

4.3.4. Family risk factors

Information about children's history of abuse, neglect, and exposure to interparental violence was obtained by review of the child's clinic file. The file contained therapists' reports, social workers' reports, court records, and therapists' clinical assessments, which contained information about the child's trauma history. When there was an unsubstantiated possibility that a child might have been abused, we labeled the case as having "suspected maltreatment." A child might have "suspected maltreatment" if an allegation of abuse or neglect was mentioned on a referral or other communication with a child welfare social worker or a caregiver. Children were classified as either having a suspected or documented history of maltreatment, or having no history of maltreatment. For purposes of this study, children with suspected and documented histories of maltreatment were both classified as having a history of maltreatment.

4.3.5. Dyadic Parent-Child Interaction Coding System (DPICS)

The recorded observational assessments of parent-child interactions were coded using the Dyadic Parent-Child Interaction Coding System (DPICS, 4th ed.), a microanalytic coding system designed by Eyberg and her colleagues (DPICS, 4th ed., Eyberg, Nelson, Ginn, Bhuiyan, & Boggs, 2013) to categorize every parent verbalization in a parent-child interaction. Although DPICS is in its 4th edition, the data collected for this study spans more than a decade and all four editions of this manual, in addition to two different versions of "mastery" of play therapy skills (i.e., CDI mastery), the goal of the first phase of treatment. Because the earlier version of CDI mastery did not distinguish between certain codes (nor did the coders distinguish between these codes), we needed to use the earlier version of CDI mastery to examine change from the first to the final assessment. Hence, we combined codes into those verbalization categories communicating positive attention commonly used by PCIT therapists in weekly assessments (descriptions, praise, and reflective statements)

and those verbalizations discouraged by therapists because they tend to correct and direct (e.g., questions, commands, and critical statements). Descriptions give specific information about the child's current or immediately completed behavior, or provide information about people, objects, events or activities. In reflective statements, a parent repeats the child's verbalization that immediately preceded it. Praise is defined as any specific positive evaluation of children's attributes, products, or behaviors. Discouraged verbalizations are comprised of commands (parental directions to the child to perform a behavior), questions (verbal inquiries that do not have any implicit demand for behavior), and critical statements (negative evaluations of children's attributes, products, or behaviors). It was standard practice for coders to code the observation twice to insure reliability. To test for reliability and coder drift, approximately 25% of tapes were recoded and intraclass correlations were computed for encouraged parent verbalizations ($r = .83$) and discouraged parent verbalizations ($r = .81$). These coefficients suggest that codes for these parent verbalization categories are reliable.

5. Results

5.1. Change in child behavior problems

To test whether adoptive parents reported significant improvements in children's emotional and behavioral problems from pre-treatment to the end of treatment, we conducted repeated measures analysis of covariance of scores on two measures (CBCL, ECBI), using all dyads who completed measures at two assessment points (i.e., pre-treatment and either mid- or post-treatment). We covaried whether or not the dyad dropped out of treatment early ($n = 8$), thus indicating which assessment was used in the analysis. Results of analyses showed significant improvements in internalizing, externalizing, and total problems, as measured by the CBCL (Overall $F(3, 70) = 7.46, p < .001, \eta^2 = .24$, Observed power = .98) as well as significant improvements in the intensity and number of behavior problems as measured by the ECBI (Overall $F(2, 68) = 38.86, p < .001, \eta^2 = .52$, Observed power = 1.0). Table 1 shows the CBCL and ECBI scale means and standard deviations, and univariate effects statistics reflecting the significance of change from pre-treatment to the final assessment. Findings reveal significant reductions in adoptive parents' reports of every scale measuring different aspects of their children's emotional and behavioral problems.

5.2. Clinical significance of change in behavior problems

Further examination of these changes showed that 65.8% of adoptive parents reported child behavioral problems in the clinical range pre-treatment on the ECBI intensity scale. At the final assessment, 26.3% of children were reported to have clinical levels of behavior problems. Decreases also were observed on other measures of child behavior problems (see Table 2).

Table 1

Mean scores on outcome measures pre- and post-treatment.

Measure/scale:	Pre-treatment		Final assessment		Effects
	M	(SD)	M	(SD)	
CBCL T-scores ($N = 68$)					
Internalizing	60.1	(10.3)	52.9	(11.9)	$F(1, 72) = 39.3, p < .001, \eta^2 = .35, OP = 1.0$
Externalizing	64.6	(11.3)	57.7	(11.0)	$F(1, 72) = 38.4, p < .001, \eta^2 = .35, OP = 1.0$
Total Problem	62.7	(10.8)	55.5	(11.8)	$F(1, 72) = 42.9, p < .001, \eta^2 = .37, OP = 1.0$
ECBI raw scores ($N = 72$)					
Intensity	136.1	(33.6)	108.9	(33.0)	$F(1, 69) = 54.99, p < .001, \eta^2 = .44, OP = 1.0$
Problems	14.2	(7.6)	6.6	(6.2)	$F(1, 69) = 68.3, p < .001, \eta^2 = .50, OP = 1.0$
PSI-SF raw scores ($N = 66$)					
Parental Distress	23.5	(7.4)	21.2	(7.7)	$F(1, 65) = 9.6, p = .003, \eta^2 = .13, OP = .86$
P-C Dys. Relation.	24.4	(7.5)	21.1	(7.9)	$F(1, 65) = 19.3, p < .001, \eta^2 = .23, OP = .99$
Difficult Child	36.6	(8.6)	29.6	(10.1)	$F(1, 65) = 31.8, p < .001, \eta^2 = .33, OP = 1.0$
Total Stress	84.5	(18.5)	71.9	(22.4)	$F(1, 65) = 29.6, p < .001, \eta^2 = .32, OP = 1.0$

Note: OP = Observed power.

Table 2

Percent of children reported as having clinical levels of behavioral problems on the ECBI and CBCL at the pre-treatment and final assessments.

	Pre-treatment	Final assessment
CBCL ($N = 68$)		
Internalizing problems	39.2	18.9
Externalizing problems	44.6	27.0
Total problems	44.6	27.0
ECBI ($N = 72$)		
Intensity of problems	65.8	26.3
Number of problems	43.1	12.5

5.3. Changes in parenting behavior

Part of the purpose of PCIT is to coach parents to provide more positive attention to their children's appropriate behavior and to positively support children's play, rather than direct and correct them. To test whether adoptive parents increased the degree to which they provided positive attention and decreased their directing and correcting behavior, we conducted a repeated measures analysis of covariance of the coded DPICS observation using a subset of participants ($n = 38$), covarying whether or not the dyad completed treatment. Participants included in this analysis either had coding sheets present in their case files or videotapes of assessment sessions. Results of this analysis showed strong significant increases in verbalizations communicating positive attention, such as descriptions, praises, and reflections (Pre-treatment: $M = 26.05, SD = 14.1$; Final assessment: $M = 49.47, SD = 18.1$; $F(1, 37) = 72.3, p < .001, \eta^2 = .69$, Observed power = 1.0) and strong significant decreases in discouraged verbalizations, such as commands, questions, and critical statements (Pre-treatment: $M = 33.71, SD = 15.0$; Final assessment: $M = 8.84, SD = 7.0$; $F(1, 37) = 83.1, p < .001, \eta^2 = .70$, Observed power = 1.0).

5.4. Changes in stress related to the parent role

To test whether adoptive parents reported significant improvements in indicators of parenting stress from pre-treatment to the end of treatment, we conducted repeated measures analysis of covariance using all dyads who completed measures at two assessment points (i.e., pre-treatment and either mid- or post-treatment). We covaried whether or not the dyad dropped out of treatment early ($N = 9$), thus indicating which assessment was used in the analysis. Results of analyses showed significant improvements in Parental Distress, Parent-Child Dysfunctional Relationship, Difficult Child, and Total Stress scales (Overall $F(4, 62) = 11.11, p < .001, \eta^2 = .35$, Observed power = 1.0). Table 1 shows the PSI-SF scale means and standard deviations, and univariate effects statistics reflecting the significance of change from pre-treatment to the final assessment. Findings reveal significant reductions

in adoptive parents' reports of every scale measuring different aspects of their parenting stress.

6. Discussion

The current paper sought to achieve two primary goals: (1) to explicate how PCIT can be understood as an attachment-based intervention for children, and (2) to demonstrate that PCIT can provide significant benefit for children and families often described as needing an attachment-based treatment. To these ends, Section 2 of this paper drew heavily on attachment theory and research to describe the primary treatment goals of an attachment-based approach and described how PCIT targeted each of these goals. Section 4 provided pilot data demonstrating the benefit of PCIT for adopted children and their adoptive caregivers.

Child welfare professionals are increasingly being encouraged to refer children and families for evidence-based mental health services (Child Welfare Collaborative Group, National Child Traumatic Stress Network, & California Social Work Education Center, 2013). This can create confusion for many caseworkers or other professionals who believe that adopted, foster, or other out-of-home children require attachment-focused services to improve mental health. These conflicting priorities are often the result of misunderstandings related to either attachment theory and research or evidence-based treatment (Allen, 2011a). Nonetheless, these two perspectives can co-exist when an evidence-based treatment is consistent with the principles of attachment theory and research.

The current paper demonstrates how PCIT, a recognized and commonly cited evidence-based treatment, satisfies four tenets of attachment-focused treatment: (1) focus on establishing an adequate relationship with a discriminated attachment figure, (2) enhance the caregiver's ability to sensitively and effectively identify and respond to the child's emotions and behaviors, (3) focus on the present relationship and context and attempt to improve the child's functioning within his or her current context, and (4) be cognizant of the child's cognitive ability. Through these treatment positions, theoretically, one would expect an improved parent-child relationship and subsequent improvement in the child's emotion regulation, self-perception, and social skills.

The data presented in this paper with adopted children suggests numerous attachment-related benefits to PCIT. First, direct observations of caregiver-child interactions demonstrated that caregivers significantly increased their use of positive attention skills (e.g., praises, reflections, descriptions), and reduced their use of negative skills (e.g., criticisms, questions, commands). These findings likely reflect greater sensitivity on the part of the caregiver, and less frustration, as parents are better able to identify and attend to the child's behaviors in a positive manner. Second, scores on the PSI significantly declined, suggesting that caregivers were under less stress and endorsed better relationships with their children. Lastly, reductions in the child's externalizing and internalizing problems were significant and may signal marked improvement in the child's emotion regulation, social skills, and self-perception. In short, the data presented here demonstrates that PCIT was able to prompt improvements in attachment-related areas and did so with a high risk sample: adopted children with a history of child maltreatment.

It is important to emphasize that the outcome measures used in this project were not direct examinations of attachment-related constructs (e.g., internal working models, attachment classifications). Measurement of such constructs outside of the toddler and preschool age groups are fraught with difficulty as a result of significant challenges in the development of psychometrically sound assessment methods (Allen, 2011b; O'Connor & Zeanah, 2003). The data presented here represent only a pilot study of the effectiveness of PCIT with children at risk for attachment-related problems. A more convincing demonstration of the effectiveness of PCIT for this population would require a randomized controlled trial, ideally employing an active control group that can

account for non-specific factors of treatment (Allen, 2014). In addition, in keeping with prior observations (O'Connor, Matias, Futh, Tantom, & Scott, 2013), it may be necessary to conduct follow-up assessments to determine if the behavioral and parenting improvements noted from PCIT translates into more adaptive attachment representations and relationships.

An intervention such as PCIT, which possesses significant evidence documenting improvement of behavioral problems (Thomas & Zimmer-Gembeck, 2007) and targets attachment-derived treatment goals, may provide the optimal treatment course for adopted and/or foster children with behavioral and/or attachment disturbances. Given that more significant behavioral problems are associated with a lower likelihood of adoption (Leathers et al., 2012) and more negative evaluations of adoption success (Castle et al., 2009), it is critical that families who are considering adopting children with maltreatment histories receive effective services early in the adoption process. PCIT, whether viewed as targeting behavioral problems or attachment-related constructs, likely impacts both and should be considered as a viable treatment option for children experiencing or at risk of attachment-related problems.

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References

- Abidin, R. R. (1995). *Parenting Stress Index, 3rd edition: Professional manual*. Odessa, FL: Psychological Assessment Resources.
- Achenbach, T.M. (1994a). *Manual for the Child Behavior Checklist 2-3 and 1992 profile*. Burlington, VT: University of Vermont, Department of Psychiatry.
- Achenbach, T.M. (1994b). *Manual for the Child Behavior Checklist 4-18 and 1994 profile*. Burlington, VT: University of Vermont, Department of Psychiatry.
- Achenbach, T.M. (2001). *Manual for the ASEBA school-age forms and profiles*. Burlington, VT: University of Vermont, Research Center for Children, Youth & Families.
- Achenbach, T.M., & Rescorla, L. (2000). *Manual for the ASEBA preschool forms & profiles*. Burlington, VT: University of Vermont, Research Center for Children, Youth & Families.
- Ainsworth, M. D. S., Blehar, M. C., Waters, E., & Wall, S. N. (1978). *Patterns of attachment: A psychological study of the Strange Situation*. Hillsdale, NJ: Erlbaum.
- Alink, L. R. A., Cicchetti, D., Kim, J., & Rogosch, F. A. (2009). Mediating and moderating processes in the relation between maltreatment and psychopathology: Mother-child relationship quality and emotion regulation. *Journal of Abnormal Child Psychology*, 37, 831–843.
- Allen, B. (2011a). The use and abuse of attachment theory in clinical practice with maltreated children, part II: Treatment. *Trauma, Violence & Abuse*, 12, 13–22.
- Allen, B. (2011b). The use and abuse of attachment theory in clinical practice with maltreated children, part I: Diagnosis and assessment. *Trauma, Violence & Abuse*, 12, 3–12.
- Allen, B. (2014). Understanding evidence-based treatment for trauma-exposed children: Definition, development, and misconceptions. In B. Allen, & M. Kronenberg (Eds.), *Treating traumatized children: A casebook of evidence-based therapies*. New York: Guilford Press.
- Allen, J., & Marshall, C. R. (2011). Parent-Child Interaction Therapy (PCIT) in school-aged children with specific language impairment. *International Journal of Language & Communication Disorders*, 46, 397–410.
- Ammaniti, M., van IJzendoorn, M. H., Speranza, A. M., & Tambelli, R. (2000). Internal working models of attachment during late childhood and early adolescence: An exploration of stability and change. *Attachment & Human Development*, 2, 328–346.
- Bagner, D. M., & Eyberg, S. M. (2007). Parent-Child Interaction Therapy for disruptive behavior in children with mental retardation: A randomized controlled trial. *Journal of Clinical Child and Adolescent Psychology*, 36, 418–429.
- Beijersbergen, M. D., Juffer, F., Bakermans-Kranenburg, M. J., & van IJzendoorn, M. H. (2012). Remaining or becoming secure: Parental sensitive support predicts attachment continuity from infancy to adolescence in a longitudinal adoption study. *Developmental Psychology*, 48, 1277–1282.
- Bernard, K., Dozier, M., Bick, J., Lewis-Morrarty, E., Lindhiem, O., & Carlson, E. (2012). Enhancing attachment organization among maltreated children: Results of a randomized clinical trial. *Child Development*, 83, 623–636.
- Booth, C. L., Rubin, K. H., & Rose-Krasnor, L. (1998). Perceptions of emotional support from mother and friend in middle childhood: Links with social-emotional adaptation and preschool attachment security. *Child Development*, 69, 427–442.
- Bowlby, J. (1973). *Attachment and loss: Vol. 2. Separation: Anxiety and anger*. New York: Basic Books.
- Bowlby, J. (1980). *Attachment and loss: Vol. 3. Loss: Sadness and depression*. New York: Basic Books.
- Bowlby, J. (1982). *Attachment and loss: Vol. 1. Attachment* (2nd ed.). New York: Basic Books (Original work published 1969).

- Bowlby, J. (1988). *A secure base: Parent–child attachment and healthy human development*. New York: Basic Books.
- Breidenstine, A. S., Bailey, L. O., Zeanah, C. H., & Larrieu, J. A. (2011). Attachment and trauma in early childhood: A review. *Journal of Child & Adolescent Trauma*, 4, 274–290.
- Cassidy, J., Ziv, Y., Mehta, T. G., & Feeney, B. C. (2003). Feedback seeking in children and adolescents: Association with self-perceptions, attachment representations, and depression. *Child Development*, 74, 612–628.
- Castle, J., Groothues, C., Beckett, C., Colvert, E., Hawkins, A., Kreppner, J., et al. (2009). Parents' evaluation of adoption success: A follow-up study of intercountry and domestic adoptions. *American Journal of Orthopsychiatry*, 79, 522–531.
- Chaffin, M., Silovsky, J. F., Funderburk, B., Valle, L. A., Brestan, E. V., Balachova, T., et al. (2004). Parent–Child Interaction Therapy with physically abusive parents: Efficacy for reducing future abuse reports. *Journal of Consulting and Clinical Psychology*, 72, 500–510.
- Chase, R. M., & Eyberg, S. M. (2008). Clinical presentation and treatment outcome for children with comorbid externalizing and internalizing symptoms. *Journal of Anxiety Disorders*, 22, 273–282.
- Child Welfare Collaborative Group, National Child Traumatic Stress Network, & The California Social Work Education Center (2013). *Child welfare trauma training toolkit: Trainer's guide* (2nd ed.). Los Angeles, CA and Durham, NC: National Child Traumatic Stress Network.
- Child Welfare Information Gateway (2011). *How many children were adopted in 2007 and 2008?* Washington, DC: U.S. Department of Health and Human Services, Children's Bureau.
- Cicchetti, D., & Rogosch, F. A. (1996). Equifinality and multifinality in developmental psychopathology. *Development and Psychopathology*, 8, 597–600.
- Cicchetti, D., Rogosch, F. A., & Toth, S. L. (2006). Fostering secure attachment in infants in maltreating families through preventative interventions. *Development and Psychopathology*, 18, 623–649.
- Cohen, M. L., Heaton, S. C., Ginn, N., & Eyberg, S. M. (2012). Parent–Child Interaction Therapy as a family-oriented approach to behavioral management following psychiatric traumatic brain injury: A case report. *Journal of Pediatric Psychology*, 37, 251–261.
- Egeland, B., & Farber, E. (1984). Infant–mother attachment: Factors related to its development and changes over time. *Child Development*, 55, 753–771.
- Eyberg, S. M., Nelson, M. M., Ginn, N. C., Bhuiyan, N., & Boggs, S. (2013). *Dyadic parent–child interaction coding system: Comprehensive manual for research and training* (4th ed.). Gainesville, FL: PCIT International.
- Eyberg, S.M., & Pincus, D. (1999). *Eyberg Child Behavior Inventory and Sutter–Eyberg Student Behavior Inventory: Professional manual*. Odessa, FL: Psychological Assessment Resources.
- Eyberg, S.M., & Robinson, E.A. (1983). Conduct problem behavior: Standardization of a behavioral rating scale with adolescents. *Journal of Clinical Child Psychology*, 12, 347–354.
- Funderburk, B. W., Eyberg, S. M., Newcomb, K., McNeil, C. B., Hembree-Kigin, T., & Capage, L. (1998). Parent–Child Interaction Therapy with behavior problem children: Maintenance of treatment effects in the school setting. *Child & Family Behavior Therapy*, 20, 17–38.
- Galanter, R., Self-Brown, S., Valente, J. R., Dorsey, S., Whitaker, D. J., Bertuglia-Haley, M., et al. (2012). Effectiveness of Parent–Child Interaction Therapy delivered to at-risk families in the home setting. *Child & Family Behavior Therapy*, 34, 177–196.
- Gunnar, M. R., Van Dulmen, M. H. M., & The International Adoption Project Team (2007). Behavior problems in postinstitutionalized internationally adopted children. *Development and Psychopathology*, 19, 129–148.
- Hakman, M., Chaffin, M., Funderburk, B., & Silovsky, J. F. (2009). Change trajectories for parent–child interaction sequences during Parent–Child Interaction Therapy for child physical abuse. *Child Abuse & Neglect*, 33, 461–470.
- Harwood, M. D., & Eyberg, S. M. (2006). Child-directed interaction: Prediction of change in impaired mother–child functioning. *Journal of Abnormal Child Psychology*, 34, 335–347.
- Hoffman, K. T., Marvin, R. S., Cooper, G., & Powell, B. (2006). Changing toddlers' and preschoolers' attachment classifications: The Circle of Security intervention. *Journal of Consulting and Clinical Psychology*, 74, 1017–1026.
- Hussey, D. L., Falletta, L., & Eng, A. (2012). Risk factors for mental health diagnoses among children adopted from the public child welfare system. *Children and Youth Services Review*, 34, 2072–2080.
- Jaffari-Bimmel, N., Juffer, F., van IJzendoorn, M. H., Bakersmans-Kranenburg, M. J., & Mooijart, A. (2006). Social development from infancy to adolescence: Longitudinal and concurrent factors in an adoption sample. *Developmental Psychology*, 42, 1143–1153.
- Ji, J., Brooks, D., Barth, R. P., & Kim, H. (2010). Beyond preadoptive risk: The impact of adoptive family environment on adopted youth's psychosocial adjustment. *American Journal of Orthopsychiatry*, 80, 432–442.
- Kim, J., & Cicchetti, D. (2010). Longitudinal pathways linking child maltreatment, emotion regulation, peer relations, and psychopathology. *Journal of Child Psychology and Psychiatry*, 51, 706–716.
- Leathers, S. J., Spielfogel, J. E., Gleeson, J. P., & Roloock, N. (2012). Behavior problems, foster home integration, and evidence-based behavioral interventions: What predicts adoption of foster children? *Children and Youth Services Review*, 34, 891–899.
- Lewis, E. E., Dozier, M., Ackerman, J., & Sepulveda-Kozakowski, S. (2007). The effect of placement instability on adopted children's inhibitory control abilities and oppositional behavior. *Developmental Psychology*, 43, 1415–1427.
- Lieberman, A. F., Ippen, C. G., & Van Horn, P. (2006). Child–parent psychotherapy: 6-month follow-up or a randomized controlled trial. *Journal of the American Academy of Child and Adolescent Psychiatry*, 45, 913–918.
- Main, M., & Solomon, J. (1990). Procedures for identifying infants as disorganized/disoriented during the Ainsworth Strange Situation. In M. T. Greenberg, D. Cicchetti, & E. M. Cummings (Eds.), *Attachment in the preschool years: Theory, research, and intervention*. Chicago: University of Chicago Press.
- McDiarmid, M. D., & Bagner, D. M. (2005). Parent–Child Interaction Therapy for children with disruptive behavior and developmental disabilities. *Education and Treatment of Children*, 28, 130–141.
- McNeil, C. B., & Hembree-Kigin, T. L. (2010). *Parent–Child Interaction Therapy* (2nd ed.). New York: Springer.
- National Institute of Child Health and Human Development (NICHD) Early Child Care Research Network (1997). The effects of infant child care on mother–infant attachment security: Results of the NICHD study of early child care. *Child Development*, 68, 860–879.
- O'Connor, T. G., Matias, C., Futh, A., Tantam, G., & Scott, S. (2013). Social learning theory parenting intervention promotes attachment-based caregiving in young children: Randomized clinical trial. *Journal of Clinical Child and Adolescent Psychology*, 42, 358–370.
- O'Connor, T. G., & Zeanah, C. H. (2003). Attachment disorders: Assessment strategies and treatment approaches. *Attachment & Human Development*, 5, 223–244.
- Pearl, E., Thieken, L., Olafson, E., Boat, B., Connelly, L., Barnes, J., et al. (2012). Effectiveness of community dissemination of Parent–Child Interaction Therapy. *Psychological Trauma: Theory, Research, Practice, and Policy*, 4, 204–213.
- Querido, J. G., & Eyberg, S. M. (2005). Parent–Child Interaction Therapy: Maintaining treatment gains of preschoolers with disruptive behavior disorders. In E. D. Hibbs, & P. S. Jensen (Eds.), *Psychosocial treatments for child and adolescent disorders: Empirically based strategies for clinical practice* (2nd ed.). Washington, DC: American Psychological Association.
- Rushton, A., Monck, E., Leese, M., McCrone, P., & Sharac, J. (2010). Enhancing adoptive parenting: A randomized controlled trial. *Clinical Child Psychology and Psychiatry*, 15, 529–542.
- Schneider, B. H., Atkinson, L., & Tardif, C. (2001). Child–parent attachment and children's peer relations: A quantitative review. *Developmental Psychology*, 37, 86–100.
- Simmel, C., Barth, R. P., & Brooks, D. (2007). Adopted foster youths? Psychosocial functioning: A longitudinal perspective. *Child & Family Social Work*, 12, 336–348.
- Smyke, A. T., Zeanah, C. H., Fox, N. A., Nelson, C. A., & Guthrie, D. (2012). Placement in foster care enhances quality of attachment among young institutionalized children. *Child Development*, 81, 212–223.
- Solomon, M., Ono, M., Timmer, S. G., & Goodlin-Jones, B. (2008). The effectiveness of Parent–Child Interaction Therapy for families of children on the autism spectrum. *Journal of Autism and Developmental Disorders*, 38, 1767–1776.
- Sroufe, L. A. (2005). Attachment and development: A prospective, longitudinal study from birth to adulthood. *Attachment & Human Development*, 7, 349–367.
- Sroufe, L. A., Carlson, E. A., Levy, A. K., & Egeland, B. (1999). Implications of attachment theory for developmental psychopathology. *Development and Psychopathology*, 11, 1–13.
- Sroufe, L. A., Egeland, B., Carlson, E. A., & Collins, A. W. (2005). *The development of the person: The Minnesota study of risk and adaptation from birth to adulthood*. New York: Guilford.
- Thomas, R., & Zimmer-Gembeck, M. J. (2007). Behavioral outcomes of Parent–Child Interaction Therapy and Triple P-Positive Parenting Program: A review and meta-analysis. *Journal of Abnormal Child Psychology*, 35, 475–495.
- Thomas, R., & Zimmer-Gembeck, M. J. (2011). Accumulating evidence for Parent–Child Interaction Therapy in the prevention of child maltreatment. *Child Development*, 82, 177–192.
- Thomas, R., & Zimmer-Gembeck, M. J. (2012). Parent–Child Interaction Therapy: An evidence-based treatment for child maltreatment. *Child Maltreatment*, 17, 253–266.
- Timmer, S. G., Ho, L. K. L., Urquiza, A. J., Zebell, N. M., Garcia, E. F., & Boys, D. (2011). The effectiveness of Parent–Child Interaction Therapy with depressive mothers: The changing relationship as the agent of individual change. *Child Psychiatry and Human Development*, 42, 406–423.
- Timmer, S. G., Urquiza, A. J., & Zebell, N. M. (2006). Challenging foster caregiver–maltreated child relationships: The effectiveness of Parent–Child Interaction Therapy. *Child and Youth Services Review*, 28, 1–19.
- Timmer, S. G., Urquiza, A. J., Zebell, N. M., & McGrath, J. M. (2005). Parent–Child Interaction Therapy: Application to maltreating parent–child dyads. *Child Abuse & Neglect*, 29, 825–842.
- Timmer, S. G., Ware, L. M., Urquiza, A. J., & Zebell, N. M. (2010). The effectiveness of Parent–Child Interaction Therapy for victims of interparental violence. *Violence and Victims*, 25, 486–503.
- Timmer, S. G., Zebell, N. M., Culver, M. A., & Urquiza, A. J. (2010). Efficacy of adjunct in-home coaching to improve outcomes in Parent–Child Interaction Therapy. *Research on Social Work Practice*, 20, 36–45.
- Ware, L. M., McNeil, C. B., Masse, J., & Stevens, S. (2008). Efficacy of in-home Parent–Child Interaction Therapy. *Child & Family Behavior Therapy*, 30, 99–126.
- Zisser, A., & Eyberg, S. M. (2010). Parent–Child Interaction Therapy and the treatment of disruptive behavior disorders. In J. R. Weisz, & A. E. Kazdin (Eds.), *Evidence-based psychotherapies for children and adolescents* (2nd ed.). New York: Guilford Press.